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PAPER TRADE JOURNAL

Vol. LXXXIII, No. 12 SEPTEMBER 16, 1926 Per annum, $4.00 Per copy, 10 cents

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FOR over four years the NEW BELOIT FOURDRINIER has demonstrated a capacity for uninterrupted operation that is the talk of the paper industry. Wire changes are so infrequent, the life of the wires so long, the quality of the sheet produced so good, and the speed of operation so great, that the standards of papermaking have undergone a complete change.

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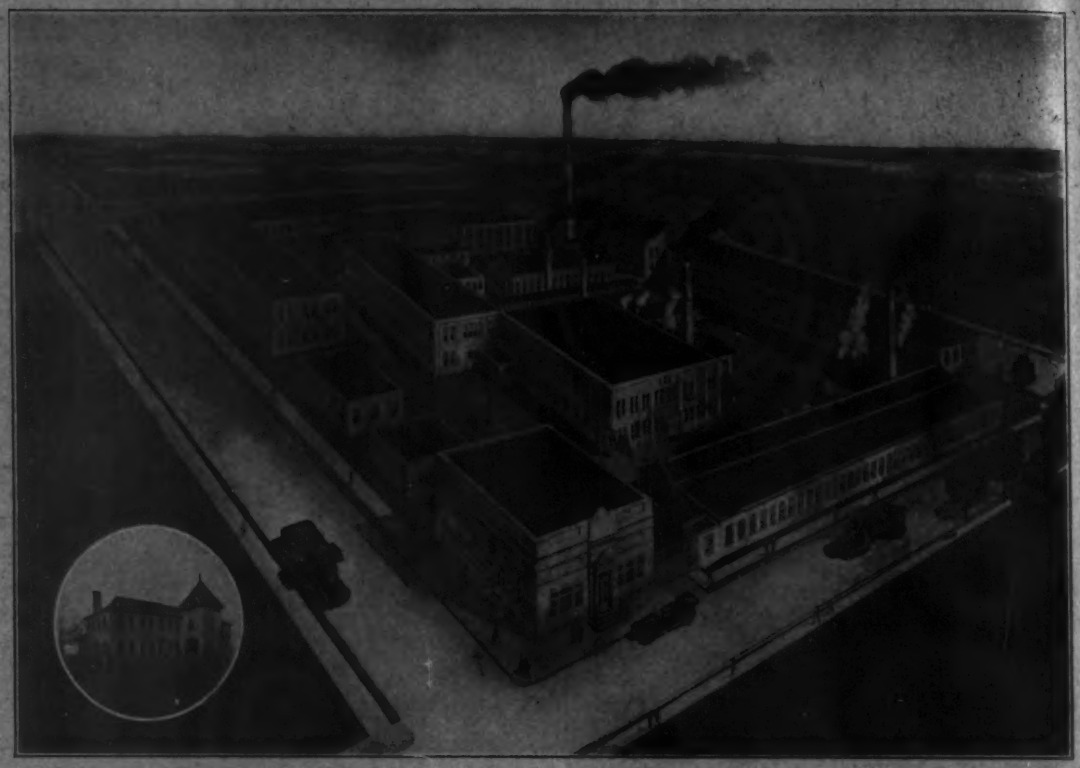
FOUNDED 1858 BELOIT IRON WORKS PAPER MACH. BELOIT, WIS.

BELOIT IRON WORKS Beloit, Wisconsin, U. S. A.



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PAPER TRADE JOURNAL

ESTABLISHED 1872

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-FIFTH YEAR

Published Every Thursday by the

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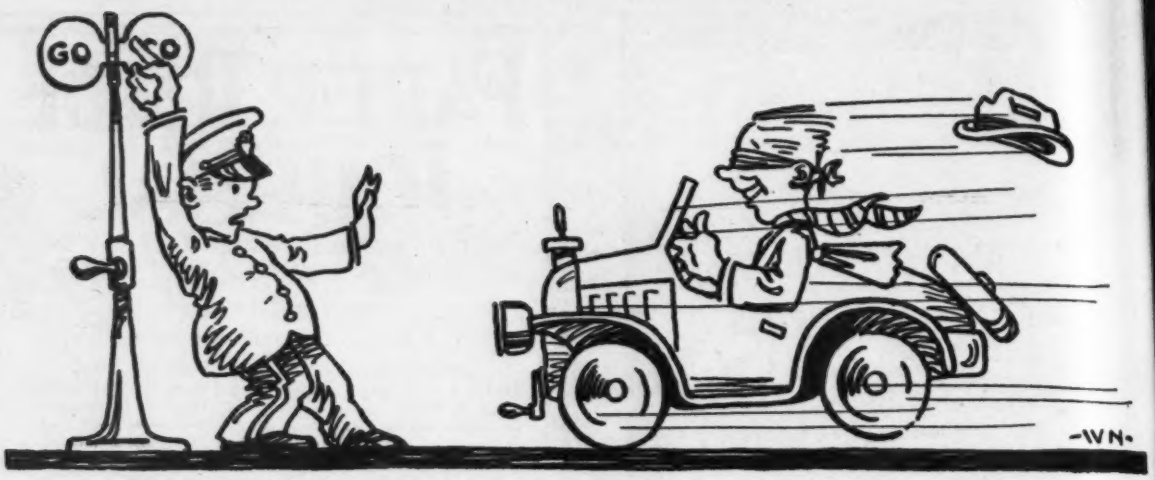


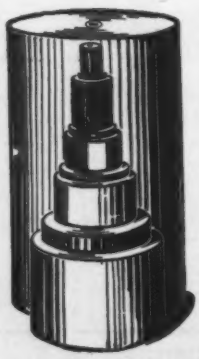
RIDING ALONG BLINDLY IS RISKY BUSINESS

And yet there are certain people who take greater chances than the one pictured above. Take for instance the paper mill owner, the converter, or the paper dealer who use obsolete and inefficient machinery in the manufacture of rolls of paper. They all are in a position to lose a volume of business, which due to past experience had been considered certain.

And not only is there a chance that old customers will trade with a competitor who is equipped to produce rolls of superior quality, but also the fact must be faced that to attract new buyers, the best is none too good.

Why be content to ride along with second rate equipment when there is a CAMACHINE for every roll requirement? With a CAMACHINE you will get better rolls, greater production and at lower cost.

Let us mail you information on a CAMACHINE suited to your work.



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BROOKLYN, N.Y.

SLITTERS AND WINDERS FOR EVERY ROLL REQUIREMENT

ESTABLISHED IN 1872

PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXIII, No. 12 [redacted] Thursday, September 16, 1926

The Magazine of the Paper Industry

Cost Association to Hold Convention in Holyoke

Will Meet For Session of Three Days, Thursday, Friday and Saturday, Sept. 23-25 at the Hotel Nonotuck—Some of the Representative Men of the Industry Will Make Addresses on Helpful and Timely Subjects. Committee of Arrangements Prepares Program of More Than Usual Interest

The Cost Association of the Paper Industry will hold its convention at the Nonotuck Hotel, Holyoke, Mass., September 23-25. The following program has been arranged:

THURSDAY MORNING SESSION

9-10 A. M.—Registration. (Daylight Saving Time).

10 A. M.—Address of Welcome, C. A. Crocker, President, Crocker-McElwain Company and Chemical Paper Manufacturing Company, Holyoke, Mass.

10:15 A. M.—M. C. Dobrow, Assistant Secretary, Writing, Cover and Tissue Paper Manuufacturers Associations, "Excess Machine Capacity in the Paper Industry".

11:00 A. M.—L. H. Olson, Vice-President, American Appraisal Company, New York City, "Appraisal Work in the Pulp and Paper Industry".

12:30 P. M.—Luncheon—Regular Hotel Luncheon will be served in Special Room.

THURSDAY AFTERNOON SESSION

2:00 P. M.—Eric A. Camman, Manager, System Department Peat, Marwick, Mitchell & Company, New York City, "The Uses of Standard Costs"—Discussion.

3:00 P. M.—Ralph B. Knott, Cost Accountant, Eastern Manufacturing Company, Bangor Maine, "Our Standard Cost System"—Discussion—Led by H. R. Boston, Stevens & Thompson Paper Company, North Hoosick, N. Y.

6:30 P. M.—Banquet—Chairman, Col. B. A. Franklin, Vice-President, Strathmore Paper Company. Short addresses by members of the Executive Committee.

Orchestra will be provided and Ladies are specially invited, as following the banquet a dance will be held in the Grand Ball room of the Nonotuck Hotel. (Informal) Single tickets $3.00. Double tickets $5.00.

FRIDAY MORNING SESSION

9:00-10:00 A. M. Open Forum.

10:00 A. M.—Miss Helen U. Kiely, Director, Bureau of Technical Research, American Writing Paper Company, Holyoke, Mass., "Technical Knowledge for Cost Men"—Discussion.

11:00 A. M.—A. T. Leander, Chemical Engineer, The Dorr Company, New York City, "Save-all Savings".

12:30 P. M.—Luncheon—Special Invitation extended to executives to attend this Luncheon. Speaker—Dr. H. P. Baker, Executive Secretary, American Paper and Pulp Association, New York City.

FRIDAY AFTERNOON SESSION

2:30 P. M.—Reed B. Timmers, Albany, N. Y., Insurance Adviser —"How Some Mills Have Reduced Cost of Their Insurance"—Discussion.

3:15 P. M.—Thomas J. Burke, C. A., Secretary-Treasurer, Cost Association of the Paper Industry, New York City, "The Value of Balance Sheet Ratios to Our Industry".

4:00 P. M.—Business Session—

SATURDAY

Arrangements have been made whereby those attending can visit any of the Local Mills, by making arrangements with the Secretary or with any of the members of the following Committee:—

Seth L. Bush, Manager, Research Dept., Crocker-McElwain Co., and Chemical Paper Manufacturing Company, Holyoke, Mass. James A. Reilly, Manager, Cost and Inventory Department, American Writing Paper Company, Holyoke, Mass. R. M. Mudgett, Strathmore Paper Company, Mittineague, Mass. John H. Karges, C. H. Dexter & Sons, Inc., Windsor Locks, Conn. J. Wolcott, Crane & Co., Dalton, Mass. A. Cummings, U. S. Envelope Company, Springfield, Mass. Arthur Beston, Holyoke Card and Paper Company, Springfield, Mass.

RESERVATIONS

A cordial invitation is extended to all executives and employees of pulp and paper manufacturers and converters, to attend this convention. No registration fee will be charged, either to members or non-members.

As this is the week of the Eastern States Exhibition at Springfield, Mass., everyone is urged to make reservations early. These should be sent direct to S. P. Dawson, Manager, Hotel Nonotuck, Holyoke, Mass., and acknowledgment asked.

Those desiring to play Golf on Saturday, can do so by making arrangements with James A. Reilly.

Simplified Practice on Binders Board

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 8, 1926.—Announcement has been made by the Simplified Practice Division of the Department of Commerce, that a final general conference on simplification in the binders board industry will be held in this city on October 22. At this conference it is expected that representatives of the manufacturers, distributors and consumers will be present. The work has gone forward through cooperation of the Division with the Binders Board Manufacturers Association.

Paper Industry Continues Expansion in Canada

News Print Plant of Ste. Anne Paper Company, Now Being Erected, To Have Annual Capacity of 75,000 Tons—Bond Offering To Be Made Simultaneously in Canada and the United States—Enlargement of Fort William Mill To Begin Next Year

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., September 11, 1926.—Arrangements have been completed for the financing of the new news print mill now under construction by the Ste. Anne Paper Company, Limited, and it is expected that an offering of $5,000,000 20-year first mortgage 6½% bonds will be made simultaneously in Canada and the United States. The company's mill is being erected at the junction of the Ste. Anne and the St. Lawrence rivers, near Ste. Anne de Beaupre, and will have a rated annual capacity of 75,000 tons of news print. The company has been formed by interests closely associated with the Spanish River and Abitibi companies, and this group, by establishing a news print mill on tide water in the Province of Quebec will be able to deliver news print more advantageously in the New York market than hitherto.

Fort William Co. To Enlarge

George H. Mead, president of the Spanish River Pulp and Paper Company, and chairman of the Fort William Paper Company, states that it is planned to proceed next year with the enlargement of the Fort William mill, instead of in 1928, as set out in the agreement with the city. He says the site and facilities of the plant are capable of almost ilimitable expansion, and with adequate support he believes the Fort William mill will eventually become the largest individual plant of its kind on the continent. The erection of a million-dollar sulphite plant in connection with the mill is now under way.

Enlargement of Saguenay Power Plant

The Department of Lands and Forests at Quebec has received official notice that the Duke Price Power Company intends to enlarge its dams and other structures on the Grand Discharge and Little Discharge, where the Saguenay River flows out of Lake St. John. This means that further power development will be carried out by the company in the course of the next few months.

Belgo-Canadian's Extensions

The new building which is to house the two 100-ton news print machines of the Belgo-Canadian Company has been completed, and the installation of No. 7 machine has commenced. The work on this subsidiary of the St. Maurice Valley Corporation is well up to schedule.

St. Lawrence Paper Mills

The annual report of the St. Lawrence Paper Mills, Ltd., for the fiscal year ended June 30 last, shows profits of $969,695, after allowing for taxes, as compared with $869,469 last year from which taxes had not been deducted. Earnings applicable to common stock represent $4.71 per share as compared with $3.78 in the previous year and $2.90 in the year prior to that. The net working capital position of the company shows the substantial gain of $167,933. Current assets rose from $880,296 last year to $1,719,281, while there was also an increase in current liabilities from $259,936.

During the year important extensions and improvements were carried out in connection with the various undertakings of the company, but notwithstanding this earnings have been well maintained. In addition, the company has effected important new financing plans, but while much of the work has already been done, the benefit of the new capital outlays will not be evident until the results of the current fiscal year are available.

The directors report that the cost of production for paper for the period covered by the statement was lower than in the preceding year, and that the average selling price also declined. The total production of the mill for the past twelve months was greater than for the same period last year. During the period covered by the report a 100-ton sulphite mill was brought into production and the surplus sulphite sold under contract to the Wayagamack Pulp and Paper Company.

The directors also report that the earnings shown in the statement are from the operation of a 150-ton per day mill, together with the sulphite capacity before mentioned, and does not deflect any benefit from the new financing which provides sufficient funds to bring the plant to a capacity of 325 tons of news print paper per day. The increased capacity should, in the opinion of the directors, increase the company's earning position proportionately. The paper produced in the past 12 months has been well taken by the publishers and the reputation of the company as a high grade producer and for most excellent service has not only been maintained, but added to.

Anticosta Shipping Company

Following up the purchase of Anticosti Island by the Wayagamack Pulp and Paper Company, letters patent have been granted incorporating the Anticosti Shipping Company. The purposes of the incorporation are to carry on the transportation business by land or by water, of passengers, freight, mail and goods, etc.; to act as agents for passenger and cargo boats, etc.; to construct, lease, purchase or otherwise acquire, or operate boats, etc. The amount of capital stock with which the company will commence its operations will be $50,000, and the head office of the company will be in Montreal.

T. E. McGillan Leaves McGillan-Asmuth

MENASHA, Wis., September 14, 1926.—T. E. McGillan, formerly secretary-treasurer and sales manager of the McGillan-Asmuth Paper Mills, Inc., manufacturers of toilet paper, paper towels and paper napkins, has disposed of all of his interests in the firm which since his resignation is known as the Wisconsin Tissue Mills.

Mr. McGillan was one of the founders of the firm and twelve years ago started the Peerless Paper Products Company of Menasha with four toilet re-winders, with shipments averaging about one car every ten days.

Five years ago the McGillan-Asmuth Paper mill was erected to supply the Peerless plant with paper for conversion and later the Peerless Company was absorbed by the paper mill company and instead of shipping one car in every ten days the company is now shipping two cars per day of finished paper specialties.

Mr. McGillan's plans for the future are not yet definitely decided upon but with his wide and successful knowledge of the paper specialty field he will no doubt be heard from shortly.

Hold Up Men Get Paper Mill Pay Roll

[FROM OUR REGULAR CORRESPONDENT]

CLEVELAND, September 14, 1926.—Four masked men held up C. H. Jaite, of Cleveland, president of the Jaite Paper Mills at Jaite, Ohio, and Julius Kreckel, company treasurer, as they were returning from Cleveland and stole the pay bag containing $8,400. Messrs. Kreckle, Jaite and the driver of their automobile were bound and gagged and left in bushes near the plant. They succeeded to freeing themselves some time later. The bandits escaped.

MATHIESON Chemicals

Mathieson Traffic Service

THE complicated industrial structure of today has made transportation one of the foremost problems with which industry has to contend. Expert traffic counsel has become essential to the prompt and efficient handling of freight movements.

In the chemical-consuming industries in particular, where highly technical materials are dealt with, the traffic expert is indispensable. Yet comparatively few consumers would be justified in maintaining a traffic department of their own in order to keep fully informed on traffic matters.

It is for this reason that the Mathieson organization includes a full staff of traffic experts for the service of all customers. Questions of freight rates, routings, tracing and expediting of shipments, claims against carriers, etc., are all handled for Mathieson customers by our well organized Traffic Department. Our staff welcomes the opportunity of assisting customers with their traffic problems and is on the alert at all times for traffic changes which might affect their interests, whether or not such changes have any direct connection with Mathieson products.

Consumers should give careful consideration to the advantages of Mathieson traffic before seeking a source of supply elsewhere.

The MATHIESON ALKALI WORKS *Inc.*
250 PARK AVE. NEW YORK CITY
PHILADELPHIA CHICAGO PROVIDENCE CHARLOTTE

Caustic Soda - Liquid Chlorine
Bicarbonate of Soda
Anhydrous Ammonia

EAGLE THISTLE PRODUCTS

Soda Ash - Bleaching Powder
Modified Virginia Soda
Aqua Ammonia

Deal Direct with the Manufacturer

Chicago Reports Improved Paper Demand

Predictions Are Made That the Year Will Outclass Any Previous One From the Standpoint of the Volume of Business—Prices Are Firm But Have Not Shown Any Advance—Reports From the Mills Say Pulp Is Again in Active Demand

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, September 11, 1926.—There is no doubt in the minds of paper men that a general improvement has set in all along the line. Gone are the pessimistic utterances of a few weeks back; in their place may be heard the prediction that this year will outclass any previous one from the standpoint of volume of business. Prices have not advanced, except in the paper stock branch, but it is too early to expect increases and salesmen are content with securing the orders which were so scarce during July and August.

Alexander Thomson Visits in Chicago

Alexander Thomson, vice president of Champion Coated Paper Company, visited Bob Butterworth of the Chicago office of the concern. Wednesday, September 8. Mr. Thomson was enroute from his summer home up in Michigan to the mill at Hamilton, Ohio.

Pulp Again in Active Demand

Pulp is again in active demand, reports Acer & Co., though it has not reached a point where outputs are high. Serious floods in Wisconsin, especially along the Wisconsin river, have affected the demand in that region, and it will be a few weeks before the mills there will be in the market for normal quantities. The high water will be beneficial, nevertheless, for it will provide the mills with enough water supply to operate extensively for a long time to come, a condition which is not usually so satisfactory in Wisconsin.

Hollingsworth & Whitney Co. Busy

The Hollingsworth & Whitney Company is quite busy on specialty orders, this being the nature of its business. This concern was able to keep fairly busy all summer, and the fact that an increased quantity is now in evidence indicates that the balance of the year will show a very satisfactory amount of business, states H. J. Miner, manager.

Paper Box Business Improves

Even the paper box business, which has suffered most of all during the summer months, is beginning to get better. The Morris Paper Mills, which does an exclusive box business, is operating full time, though prices have been very discouraging to the entire box industry.

Allen Paper Corp. Reports Good Business

Mr. Allen, of the Allen Paper Corporation, is very optimistic regarding the remainder of the year's business, though lamenting the drop in sulphite paper. This is not affecting sales, however, he stated.

American Coating Mills Busy

The American Coating Mills, which manufacture material for coated boxes and blanks, is in such position as to reflect the general prosperity, or vice versa, of the public. Much of its products are used in drug stores as advertising cutouts. The American mills at Elkhart, Ind., have operated continuously all summer, though prices have been very low. It is felt that a better price situation will be forthcoming in the near future.

C. T. Forster Returns to Chicago

C. T. Forster, of Robert Gair Company, is away on vacation. He will return next week, and as his outing will have occupied only about ten days, he probably is figuring on some important activity in the paper board industry in the very near future. Prices of paper stock have increased two dollars a ton, which will of course result in some changes in the finished product. Mr. Forster is sales manager of the Gair company.

Warren Mfg. Co. Busy

The Warren Manufacturing Company, which produces great quantities of glassine paper, recently increased its output by the installation of a fourth machine. The mills have operated steadily all summer, due to the new uses to which their product are being put. The cigarette manufacturing industry, for instance, is now calling for a huge quantity of glassine paper; and never before has so much of it been consumed in the candy trade. T. F. Donoghue is manager of the Chicago branch.

Blake, Moffitt & Towne Hold Open House

OAKLAND, Cal., September 10, 1926.—Buyers of paper throughout the East Bay region have been showing great interest in the newly established Oakland division of Blake, Moffitt & Towne since they have opened their doors for business the latter part of July.

A very satisfactory response was given to the recent announcement and invitation to the trade that Friday, Augut 27, would be set aside as "Open House Day" so that all who wished might have the opportunity to visit the new warehouse and office building of this pioneer firm of paper merchants.

The building was attractively decorated inside and out. The characteristic trade mark of Blake, Moffitt & Towne—the grizzly bear's head—done in black and red, was featured throughout the plan of decoration. Large amber flood lamps cast a cheerful light in the stock rooms and delivery department while in the office, many printed specimens of fine papers, attractively mounted on matboard, were displayed about the walls. Flowers, the gifts of many friends of the firm throughout the East Bay district, were beautifully arranged and helped to produce an atmosphere of welcome.

Frank L. Unthank, the manager, and other executives of the firm were busy throughout the afternoon and evening greeting and showing friends through the new plant. Altogether the day was a very successful one, so much so in fact, that the doors were kept open much later than originally planned to accommodate the many visitors who were not able to arrive until later in the evening.

The new division occupies a convenient location at the corner of Third and Jefferson streets and is in a position which is of prime importance in assuring prompt deliveries to not only Oakland, Alameda and Berkeley, but also to all points in Alameda and Contra Costa Counties. The railroad tracks pass on one side of the warehouse, and a spur track to the building permits the unloading of three cars at one time.

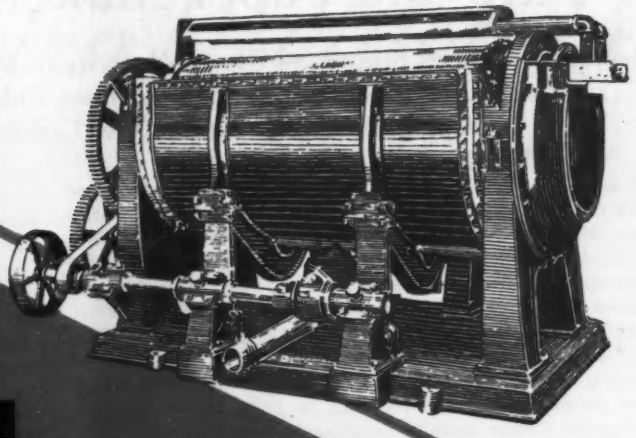
The delivery department is equally convenient having a large arcade that can accommodate the loading of several trucks at one time.

Goes With Dist. of Columbia Paper Mfg. Co.

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 14, 1926.—H. R. Harrigan, formerly chief engineer of the American Writing Paper Company, has become associated with the District of Columbia Paper Manufacturing Company as advisory assistant to the management.

The District mill is now installing three new special decorating machines in its box paper department. It is understood that the mill is spending some $50,000 on this work.



Twenty Thousand Tons

The fact that more than twenty thousand tons of paper pass through Bird Screens every day is in itself the strongest of all arguments as to why you should adopt Bird Screens.

BIRD MACHINERY

BIRD SCREENS

168

BIRD MACHINE CO. — South Walpole, Mass.

Pulp and Paper Makers Plan Safety Work

Meeting of Experts Stimulates Greater Activity in Reducing Number and Severity of Accidents —Debenture Stockholders of Mattagami Pulp & Paper Co. May Purchase Sulphite Pulp Plant and Organize New Company—Windsor Mills Expanding

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., September 13, 1926.—Extension of the safety work undertaken by the Ontario Pulp and Paper Makers' Safety Association was discussed at a meeting of safety experts held at the Kind Edward hotel, Toronto, recently, at which there was a fairly representative attendance. Ideas and suggestions were exchanged and plans made for the coming season, as well as a survey taken of what has been accomplished in the past. A. R. White, chief sanitary inspector of Ontario, and A. P. Costigane, of Toronto, safety engineer of the Ontario association, were among those present. The ground covered at the gathering was extensive and various doubtful questions in regard to allowing or disallowing certain types of accidents were taken up and discussed and final opinions expressed in each case. Each delegate gave a resume of the work being undertaken in his own plant and the progress that had been made. It was the original intention to remain in conference two days and pay a visit to the pulp and paper mills in the Niagara district. Instead the visitors went out to the Canadian National Exhibition where they enjoyed all the sights. Safety work is advancing in various departments and it is felt that the meeting will result in increased enthusiasm and stimulate all to greater activity in reducing the number and severity of mishaps in the pulp and paper mills of the province.

Debenture Holders To Meet

The 7 per cent mortgage debenture stockholders of the Mattagami Pulp and Paper Company, Toronto, whose sulphite pulp plant is located at Smooth Rock Falls, Ont., will meet in a special session on October 7 to authorize the trustee for the debenture holders to purchase the property at a price not to exceed the total par value of the first mortgage bonds outstanding, total par value of the outstanding debentures, interest and all other charges ranking prior to the debentures. Should the trustee be successful in buying in the property, a new company will organize and the debenture holders of the old company will receive a 7 per cent, cumulative, preferred share, redeemable at 110, and one share of no par value common in the new company for their holdings in the old. The right is reserved to substitute a 7 per cent, second mortgage debenture of debenture stock equivalent to par value to the preferred stock. The new company will be allowed to issue mortgage bonds to provide for additions and extensions to the properties, such securities to be secured by mortgage or charge on the whole or any part of the undertaking, property and assets to be transferred to it. The sale of the properties of the Mattagami Pulp and Paper Company will take place in Toronto on October 11 next.

Construction Proceeding on New Plant

The F. N. Burt Company, of Toronto, of which S. J. Moore, Toronto, is the President, reports that construction work on the new plant in Buffalo, N. Y., is going on satisfactorily. The excavations and foundations have been completed and the contractors are expected to have the building heady for occupancy by the first of the year. The new plant is being built alongside of the present factory and when completed will permit of more economical operation through the consolidation of manufacturing processes.

What Will the Public Read?

The direct-by-mail advertising idea is growing among the paper jobbers of Canada and a number of wholesalers and mills are adopting this form of publicity as supplementary to other means. A very attractive booklet in this connection has been issued by the merchandising department of the Southam Press, Toronto and Montreal, entitled "What Will the Public Read?" The benefit of good copy writing in direct-by-mail advertising is pointed out and one extract reads, "A manufacturer of printing paper has an appalling number of complaints from printers (from printers, mind you, who are supposed to know all about working on paper). The complaints were all similar, so that the papermaker issued a book telling the printer just how to handle the paper, with the result that its sale increased and the complaint became almost a thing of the past."

Pays Visit to Windsor Mills

F. Willment, of the sales staff of the Canada Paper Company, Toronto, recently spent his holidays at Windsor Mills, Quebec, where extensive additions are being made to the plant, which will involve an expenditure of about $150,000. There will be a new beater room, a new shipping room, a new machine room and an addition to the finishing department. The contract for the work has been awarded to the Newton Construction Company, of Sherbrooke, Que., and the job will be rushed with all possible dispatch.

Notes and Jottings of the Industry

The Copp-Clark Company, of Toronto, made a most creditable display in the Manufacturers Building at the Canadian National Exhibition, featuring their Made-in-Canada seals and tags.

Alec Dewar, of the Abitibi Power and Paper Company, Iroquois Falls, Ont., was in Toronto last week attending a meeting of the safety men of the Ontario Pulp and Paper Makers Safety Association.

The plant of the International Fiberboard Company, at Midland, Ont., which was recently destroyed by fire with a heavy loss, will be rebuilt. The new structure will be fire-proof in character and the plant will be considerably enlarged.

Gordon Blanchard, representing the Chemical Paper Company, and Croker-McElwain Paper Company, Holyoke, Mass., was in Toronto recently calling upon the trade.

Don Porter, of the Regal Paper Box Company, Toronto, has returned from a holiday cruise along Lake Ontario and the Rideau waters as far as Ottawa.

In the Pure Food building at the Canadian National Exhibition, Toronto, the E. B. Eddy Company had a fine display of "Onliwon" toilet and towel cabinets.

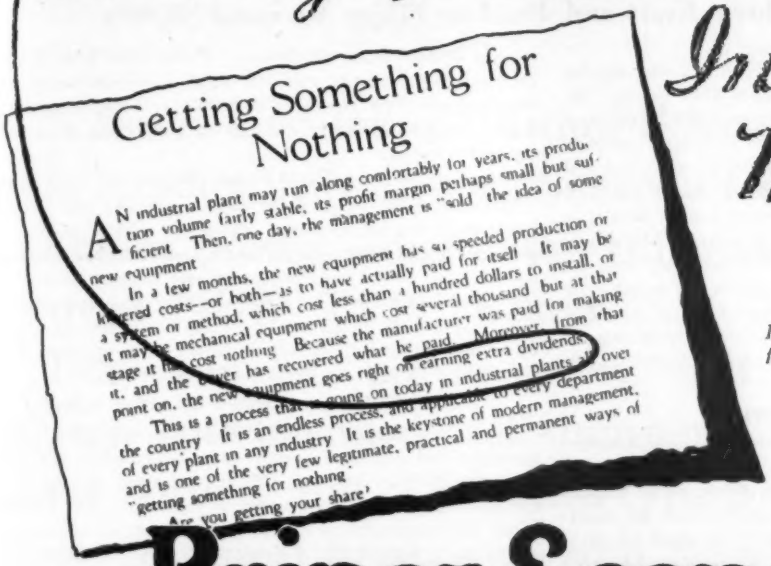
A novel feature in the exhibit of the Reg N. Boxer Company, manufacturers of wall paper, at the Canadian National Exhibition, was a demonstration of how the rolls, from which the paper is printed, are made. Hematite wall paper, which is a waterproof line, was shown along with Maximur wall hangings, the whole forming an imposing booth.

Hilton & Sons, Winnipeg, manufacturers of corrugated paper boxes, have completed a new factory building in that city. The structure along with new mechanical equipment represents an outlay of one hundred thousand dollars. The firm has been very busy of late, which has brought about the present expansion.

E. H. Wilkinson, late of the Wilkinson Paper Company, Toronto, has opened an office in the McKinnon building, Melinda street, Toronto, under the name of Wilkinson's, Ltd., and will devote his entire time as a direct paper mill agent.

Ontario has, owing to the wet season, been remarkably free from forest fires during the past few weeks, and the forestry department of the province is taking every precaution against any outbreak by means of a cooperative arrangement with the weather bureau and the field staff, augmented by data from weather stations distributed over the entire area.

Earning Extra Dividends In Paper Mills



Getting Something for Nothing

AN industrial plant may run along comfortably for years, its production volume fairly stable, its profit margin perhaps small but sufficient. Then, one day, the management is "sold" the idea of some new equipment.

In a few months, the new equipment has so speeded production or lowered costs—or both—as to have actually paid for itself. It may be a system or method, which cost less than a hundred dollars to install, or it may be mechanical equipment which cost several thousand but at that stage it has cost nothing. Because the manufacturer was paid for making it, and the buyer has recovered what he paid. Moreover, from that point on, the new equipment goes right on earning extra dividends.

This is a process that is going on today in industrial plants all over the country. It is an endless process, and applicable to every department of every plant in any industry. It is the keystone of modern management, and is one of the very few legitimate, practical and permanent ways of "getting something for nothing."

Are you getting your share?

Reprinted from The Publisher's page, Industrial Management.

Briner Economizer

LICENSED UNDER PATENTS OF E. A. BRINER AND JOHN ALEXANDER

Utilizes waste vapor to heat machine room air supply.

It Saves Steam

Recovering necessary heat from vapor being wasted to the atmosphere—without steam—is "getting something for nothing." No other part of your mill equipment will do more to increase production and lower costs than the Briner Economizer. It soon pays for itself from the saving it effects.

Besides the remarkable saving of steam, the Briner Economizer takes the load off your boilers at the time when the load is heaviest. The colder the weather, the greater is its heat recovery. It is "earning extra dividends" in nearly all the leading mills in the U. S. and Canada. Why not investigate!

IMPORTANT: **It takes time to make a study of your mill and determine the requirements. Write for complete data now—before cold weather sets in. No obligation on your part.**

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ROSS SYSTEMS

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Paper Business More Lively in Philadelphia

Demand for Fine Papers Becomes More Active and Distribution Expands—Coarse Paper Manufacturers Sold Up Several Weeks Ahead on Krafts, Wrappings, and Other Grades —Prices of Southern Kraft and Butchers Fibers Advanced Slightly

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., September 13, 1926.—With a livelier market for all grades of papers following the Labor Day holiday, the trade has been assuming a more normal trend. While the past month was more gratifying to the wholesale merchants of both fine and coarse grades, the local dealers selling from stocks did not enjoy the same activity. A summary of the August sales of the wholesale dealers in both fine and coarse grades showed a material gain over the preceding month, and a larger percentage of sales over the same period of 1925. In nearly all lines of movable stocks prices were maintained throughout the month. In late August announcements were forthcoming of a few advances in some of the coarse grades and the reduction of the brands of a few mills manufacturing specified stocks of fine papers in the Pennsylvania territory.

Fine Papers More Active

While the wholesalers of fine papers were the chief beneficiaries of the advancing markets, the paper distributors also enjoyed a more active damand for small lot purchases, which bulked in fairly good volume. Book and coated papers were the most sought of the fine grades in bulk orders, while the small lot purchases were extended to the general list. There were no conspicuous offerings in fine paper at reductions among the local jobbers, showing that stocks have been well cleaned up of hang overs ready for the fresher incoming supplies for the Fall trade.

Pennsylvania Mills Offer Reductions in Fine Papers

The most notable movement in the fine paper group was the announcement coming from two leading Pennsylvania manufacturers of proposed reduction in the complete lines of papers manufactured, including book and coated papers, bonds, writing ledgers and other grades consumed by the printing, publishing and advertising trades. These mills are among the leading producers of printing and publishing papers in the eastern section of the country. It is not expected by the trade here that the reduction will be extended to the mills generally.

Coarse Papers Broaden in Distribution

With the absence of price concessions among the local jobbers of coarse grades, and the growth of distribution in these specialties, the paper merchants have a rosy outlook for the Fall. Mills report they are sold up for several weeks on kraft and wrappings and many other grades of the coarse group, and orders are subjected to the convenience of the manufacturers for future shipments. Krafts were advanced ¼ cent, as were butchers' fibers. These advances were construed among the Quaker City, distributors as "feelers" among the manufacturers now scouting in the market. Dealers do not believe that conditions warrant this advance, as no unusually active demand has so far been noted, or is in prospect for the coming autumn. The advance in kraft and fibres came from the Southern mills, and was not accepted as a criterion for the future trend in values. Tissues have been maintained at a uniform mill quotation in the main, with, however, a lower cut in price on some grades from a couple of mills. Grey bogus, corrugated products, chip board, and other specialties, are holding, and show that the demand and supply keep apace, the market absorbing all production turned out by the mills.

Building Papers More Active

Fall activity in the local building trades has been assuming broader scope and consequently the specialists in building papers, such as roofings, sheathing felts, and like products, have been moving briskly from warehouses. Prices have been firmly held, despite the more active markets. Both Philapelphia and adjacent territory, and New Jersey building programs for the autumn have been of such a character that they have enlivened the local building paper market.

Paper Stock Active

With the wider demand for papers generally, the Philadelphia paper stock market has been advancing. Prices on the various grades of paper stock have all been raised to higher levels. Shortage of many of the most popular grades is likely to lead to even still higher quotations if the present activity continues. Rag stocks, too, are expected to advance within the next few days, as a result of more lively mill operations, from other sections of the country supplied through the Quaker City dealers.

Local Mills Show Steadier Operating Schedule

The mills in the vicinity of Philadelphia have been broadening operation and are now nearer capacity schedule than at any former period this summer. This is particularly true of the board mills and manufacturers of wrapping papers and glassine products. While the manufacturers of fine papers, such as coated and book papers, have been enjoying livelier business, they have not kept pace with the producers of coarse grades.

Wholesale Paper Merchants Association Organized

For the purpose of closer co-operation and constructive advancement of the industry there was organized in this city during the week, The Wholesale Paper Merchants Association of Philadelphia, an entirely new paper dealers association including membership of the wholesale distributors of the Quaker City and vicinity. The meeting of the wholesale merchants was held at the Poor Richard Club, when a group of representatives of the leading wholesale dealers met for the purpose of organizing. Following the announcement of the organization and its purpose by the various dealers interested in promoting the new association the following officers were elected: President Frederick S. Balch, of the Schuylkill Paper Company, and Secretary and Treasurer, E. L. Richards, head of the firm bearing his name, with offices in the Drexel Building. Among the members are Samuel S. Alcorn: G. Hooper, of the Hooper Paper and Twine Company, Inc.; Charles F. Koenig; James Andrews, of the Schuylkill Paper Company, and E. Van Schoonhoven, of the Knickerbocker Paper Company.

Those eligible to membership in the new organization are dealers who specialize in bulk distribution of paper and who do not sell from stock thereby, being eliminated from participation in the activities of the Philadelphia Paper Trade Association. The new organization was promoted solely for closer co-operation with the Philadelphia Association in the matter of trade advancement and elimination of those factors which do not work for the constructive side of the industry. The meeting last Friday was the first of the series to be held during the coming season. Only one of the firms is indentified with the Philadelphia Paper Trade Association and that the Schuylkill Paper Company which also conducts a local warehouse.

In announcing the formation of the new organization the following report of the proposed activities of the new body was issued:—

"Through the efforts of an active group of paper merchants and jobbers, a new association has just been organized in Philadelphia. Its objective is to promote the best interests of the trade in general through encouraging free and frank relations

Your Paper is Made in Your Beaters

A faster circulating Beating Engine that handles heavier stock but requires no more power,—that is the Dilts approved NEW TYPE Beater.

Iron tub of power-saving and time-saving design with inclined "self-dumping" style of concrete bottom; roll of bandless type if desired, with four cast steel heads and with heat-treated alloy steel fly bars; Spring cushioned lighter bar supported in Dilts patented rigid stands with water-chambered rocker type bearing boxes; outside lever operated emptying valves;—all the Dilts improvements with 50 years of beater-building experience back of them,—THAT is the Dilts approved NEW TYPE Beating Engine of today.

You need the Dilts approved NEW TYPE Beating Engines in your mill because "your paper is made in your beaters."

Dilts

MACHINE WORKS, Inc. FULTON, N.Y.

EXPORT OFFICE ~15 PARK ROW~ NEW YORK CITY

which will dispose of any lingering notions that competitors always have horns, tails and pitchforks. The new association is intended to provide an effectual clearing house for credit information and for efforts toward mutual aid; also for the free dissemination of helpful and progressive information. It will work unceasingly to maintain a high level of integrity in the dealings of its members with the users of its products and a high personal and buisness ethical level in all transactions.

The name of the organization is "The Wholesale Paper Merchants Association of Philadelphia" and all dealers in that city carrying on an independent business in paper and allied products are eligible for membership, monthly meetings will be held. Members of The Wholesale Paper Merchants Association do not desire to conflict with the already existing Retail Paper Trade Association, but hope to work in co-operation with that body where there are mutual interests. At least one house holds membership in both Associations and it seems possible that other concerns may do likewise."

Paper-Testing Displays at Sesqui-Centennial

An exhibition of the work of the paper testing section of the U. S. Government Printing Office at Washington, D. C., is shown in the Transportation Building at the Sesqui-Centennial Exposition. Along with a display of the various grades of papers used by the government, such as krafts, bonds, ledgers, chart, lithograph and others of standard requirements, is an exhibit of the routine tests made on an annual estimate of 4,100 paper products. The paper tests are four times as numerous as the next highest test in metals, and show that in the government testing department of all kinds of materials throughout the year amounting to 6730 tests, that about 2/3 of the total of 41000 are paper products.

Another factor in the use of government paper supplies was shown in the test of water resisting qualities with a photograph of the humidity room and its regulated temperature of 72-75 degrees and humidity of 50 per cent. A summary of the investigation on standardization of paper conducted by the United States Printing Office and the United Typothetae of America on bonds and ledgers is given at the exposition in the copies of the reports of such investigations on display. Proposals and specifications and requirements for envelopes and papers are also featured in the exhibit. They form an interesting assembly of material to 6730 tests, that about 2/3 of the total of 4,100 are paper requirements of the government.

Melchior Paper Company Adds New Products

Among the recently added lines to the specialties of the Melchior Paper Company, with offices in the Drexel Building, of which Paul Melchior is head, are those of glassines marketed under the firm's own brand, the Sterling. These will be distributed along with the specialties in printed and plain sealing tape an imported grade not generally handeled by the ordinary paper house. Among the recent importations for which the firm will act as distributor are transparent boxes manufactured of German materials which give excellent display possibilities in that the contents are visible from sides. They are sold in all sizes and designs with the customers name in imprint.

Visitors View Pennsylvania Made Papers at Sesqui

Thousands of visitors who joined in the special celebration of Pennsylvania Day at the Sesqui-Centennial during the week, when Governor Pinchot, Mayor Kendrick, and other notables of the state and city joined in the ceremonies, were given an opportunity to view the various paper products manufactured in the Keystone State featured as part of the display. Among the paper exhibitors were the manufacturers of the Dixie Drinking Cup, with plant at Easton, Pa., showing the cups and automatic dispenser; the Keasby and Mattison Company, and the manufacturing headquarters of the Ambler Autobesto products at Ambler, Pa., Impressive Carbon Papers made by the Impression Products Company, Pittsburgh, Pa.; Scotts Tissues, by the Scott Paper Company, Chester, Pa.; Hammermill Bonds, the contents in raw materials and a fan shaped design showing all the colors of the brand in rainbow effect, all made in the mills at Erie, Pa.; Emery and sand papers, produced by the United States Sand Paper Company, Williamsport, Pa.; Crepe Papers, made by the Reed Crepe Paper Company, of Williamsport, Pa.; with a beautifully designed sunburst effect showing a wide range of choice in colors and designs of crepe, accompanied by a display in a large glass case of the various party favors made from these; and a comprehensive display of the products specialized by the Diamond State Fibre Company of Bridgeport, Pa. The exhibit of the Diamond State Fibre Company included paper base celoron, showing the variety of uses in sheets, rods, tubes, special parts for electrical appliances, insulating staples, panel boards, washers, ducts, die forms, gears and many other parts in which the paper basis has been developed for manufacture of fibre products. These are shown in correlation with metal gears and like products with the fabric and paper layers displayed in their successive forms of manufacture into fibre products. Other materials manufactured by the Diamond State Fibre Company on display were garnet and emery papers. The Pennsylvania Salt Company, of Philadelphia, exhibited heavy chemicals and kryolite.

Dupont Sales Convention

The annual sales convention of the E. I. Dupont De Nemours & Co., met in this city last week at the Bellevue Stratford Hotel, and brought together sales executives and representatives from New York, Texas, Louisiana, Pennsylvania, and the Atlantic Seaboard, to the number of 175 members, among them those covering the paper mills with the Dupont chemicals and colors used in the manufacture of paper products. The purpose of the convention was to outline the advertising plans and sales campaigns for the coming year and to introduce the new products. Among the speakers were R. M. Carpenter and F. W. Pickard, vice-presidents of the Company; J. W. Elms, division sales manager; William Zintl, director of sales; S. L. Johnson, advertising manager of the paint and varnish division; B. Wilson, manager of the Chicago Office; Dr. C. M. Stines, chemical director of the company; W. P. Allen, general manager of the Cellutose Products Company; G. N. Clark, F. W. Stocker and William Hart. Business sessions were held throughout the two days convention, with social features in the way of a banquet luncheon, and sight seeing trips to the Sesqui Centennial and other points of interest in the city.

Moloch Foundry Co. To Refinance

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 14, 1926.—In an endeavor to refinance itself, the Moloch Foundry and Machine Company of Kaukauna, Wis., has placed on the market an issue of preferred stock totaling $175,000. The company makes automatic stokers and papermill equipment. The issue consists of 7 per cent shares with voting privileges.

Under the reorganization the company is capitalized at $375,000. The new capital will be used to retire present indebtedness and provide needed working funds.

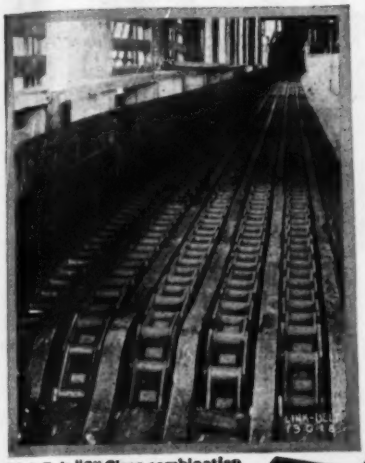
R. M. Kanik is president and general manager of the company. Among the directors are Charles Jacobson of the Outagamie Paper Company, Kaukauna, Wis., H. S. Cooke, accountant of Patten Paper Company, Kaukauna, Wis., and L. F. Nelson, general manager of Badger Tissue Mills, Kaukauna, Wis.

Builds Acid Tower for Columbia River Mills

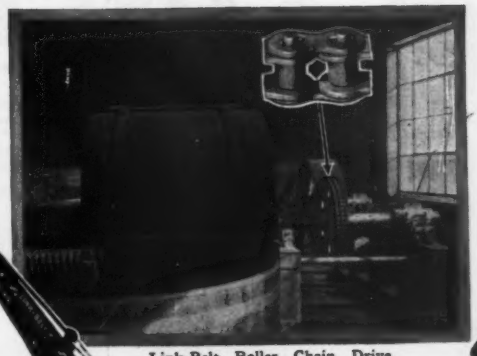
[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., September 12, 1926.—The Austen Company is building a third acid tower for the Columbia River Paper Mills company, Vancouver, Washington, and the Austen company also has the contract for two new blow-holes. The Willamette Iron and Steel company is building the new digester for the paper mills.

Get the Best for the Purpose



Link-Belt "C" Class combination iron and steel chain conveyor.

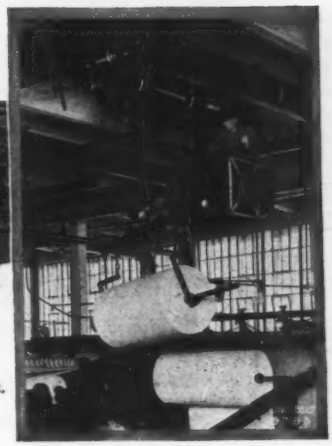


Link-Belt Roller Chain Drive.

Link-Belt Pulpwood Stacker.

Link Belt Silent Chain Drive.

Link-Belt Locomotive Crane handling pulpwood



Link-Belt Electric Hoist.

JUST because a certain type of drive has given you no trouble, is no sure sign that you have not been wasting power, day in and day out; or that this same type of drive would be ideally suited for some other location or condition in your plant.

A physician prescribes according to the ailment—that is the Link-Belt way of serving customers.

If we were only interested in making sales, we wouldn't employ engineers to do it.

Our engineers consider minimum power consumption—low maintenance—and least ultimate cost, when they sell you an elevator, conveyor, or power-transmitting unit.

No order is too small to merit this personal, man-to-man SERVICE. We fit your needs.

2664

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Pittsburgh . . . 335 Fifth Ave.
Buffalo . . . 745 Ellicott Square
Wilkes-Barre, 836 Second National Bank Bldg.
Huntington, W. Va., Robeson-Prichard Bldg.

CHICAGO, 300 W. Pershing Road

Cleveland . . 329 Rockefeller Bldg.
Detroit . . . . 5935 Lincoln Ave.
St. Louis . . . 3638 Olive St.
Kansas City, Mo., R. 436, 1002 Baltimore Ave.
Denver . . . . 520 Boston Bldg.

INDIANAPOLIS, 200 S. Belmont Ave.

Minneapolis, Minn. . . . . New Orleans 504 New Orleans Bank Bldg.
Link-Belt Supply Co., 418 S. Third St. Whitney Supply Co., Ltd. .
Louisville, Ky. . . . 321 Starks Bldg. 733 Tchoupitoulas St.
Ashland, Ky. . . . . Birmingham, Ala., 720 Brown-Marx Bldg.
V. P. Daimas & Co., 100 W. Winchester Ave. Atlanta, 610 Citizens & Southern Bank Bldg.
Toronto 2, and Montreal, Link-Belt Limited

H. W. CALDWELL & SON CO.:—Chicago, 1700 S. Western Ave. New York, 2676 Woolworth Bldg. Dallas, Texas, 810 Main St.
LINK-BELT MEESE & GOTTFRIED CO.:—San Francisco, 19th and Harrison Sts. Seattle, 820 First Ave. S. Portland, Ore., 67 Front St.
Los Angeles, 400 E. Third St. Oakland, Calif., 526 Third St. Fresno, Calif., 215 Brix Bldg.

LINK-BELT

Conveying and Power Transmission Machinery

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Milwaukee, Wis.—The Freedman Bag Company, 311-15 Broadway, manufacturer of paper bags and containers, etc., has tentative plans under advisement for the erection of a new factory on 18th street, near St. Paul avenue, to be four-story and basement, 100 x 120 feet, reported to cost in excess of $75,000, with equipment. Actual work, it is understood, will be deferred for a few months, the project maturing early in the coming year. Velguth & Papenthein, 141 Wisconsin street, are architects. Samuel Freedman is president.

Indianapolis, Ind.—A permit has been issued to the Inland Box Corporation for the erection of its proposed new plant at Morris and Dakota streets, to be one-story, 204 x 240 feet, reported to cost about $80,000. It will be equipped for the manufacture of corrugated paper and kindred shipping containers. The general building contract was recently let to William P. Jungclaus Company, 825 Massachusetts avenue. Superstructure will soon begin.

Newberg, Ore.—A project for a new local pulp and paper mill, launched a few months ago, is now maturing and construction is expected to begin within 30 to 60 days. A new company has been formed by Charles K. Spaulding, president of the Charles K. Spaulding Logging Company, Northwestern Bank Building, Portland, Ore., with branch at Newberg. The initial mill will be used primarily for the production of sulphite pulp, and will be supplemented with a paper mill at a later date. The project is expected to cost about $500,000, with equipment.

Los Angeles, Cal.—The Southern California Paper Stock Company has work in progress on a new third floor at its storage and distributing plant at 504 Molino street, and will have the extension ready for service at an early date. Charles B. Harp, Chamber of Commerce Building, Los Angeles, is the building contractor.

Millwood, Wash.—Arrangements are being made for the proposed additions to the mill of the Inland Empire Paper Company, recently announced, and actual work will proceed at an early date. The work will include the installation of additional boilers, digesters, grinders, paper-making and auxiliary machinery, estimated to cost close to $350,000.

Miami, Fla.—G. A. Price, 265 N. E. Second Street, Miami, is desirous of getting in touch with manufacturers of baling machines for waste paper, to secure data and prices with view to purchase.

Elizabeth City, N. C.—The Pell Paper Box Company, recently formed with a capital of $25,000, is said to have plans under way for the early operation of a new local factory for the manufacture of paper boxes and containers. The company is headed by W. J. Pell, Elizabeth City; and Herbert Hodges, Norfolk, Va. The first noted will be president.

Sumner, Wash.—The Northern Board Mills, Inc., manufacturer of paperboard products, has work under way on a new two-story addition to its plant, to be 35 x 85 feet, and expects to have the structure ready for service at an early date. The company is affiliated with the Paraffine Company, San Francisco, Cal.

Pittsburgh, Pa.—The Republic Bank Note Company, 3125 Forbes street, manufacturer of paper specialties, is said to be planning early completion of plans for its proposed new four-story and basement extension, 90 x 140 feet, and will issue a call for bids closely following. The structure will be located at 2123-27 Forbes street, and will cost $300,000. George W. Goldsworthy is in charge.

Chicago, Ill.—The Star Paper Company, 450 North Hermitage avenue, has begun work on its proposed new three-story and basement addition, 72 x 110 feet, at 1734-38 West Austin avenue, and will push the project to completion. It is expected to have the structure ready for service at an early date. It will cost about $50,000. Maurice L. Bein, 64 West Randolph street, is architect; Abraham Jaffe is president.

Quebec City, Quebec—The St. Anne Paper Company, formerly known as the St. Anne Power & Paper Company, is perfecting plans for the early construction of its proposed new news print mill on site near the city. A building contract for the erection has been placed. The project is reported to cost in excess of $1,000,000, and the company is arranging for financing to provide funds for the expansion. It is said that the plant will be ready for service in about 12 months. Two news print machines will be furnished by the Dominion Engineering Works, Ltd., Montreal, and awards for other equipment will be made in the near future.

Montreal, Quebec—The Shawinigan Water & Power Company, affiliated with pulp and paper interests and furnishing service to various mills of this character, is disposing of a bond issue of $3,000,000, a portion of the fund to be used for extensions in power facilities and transmission lines. The company has work in progress on a new 300-mile power line extension to connect with the proposed hydroelectric power plants of the Duke-Price interests.

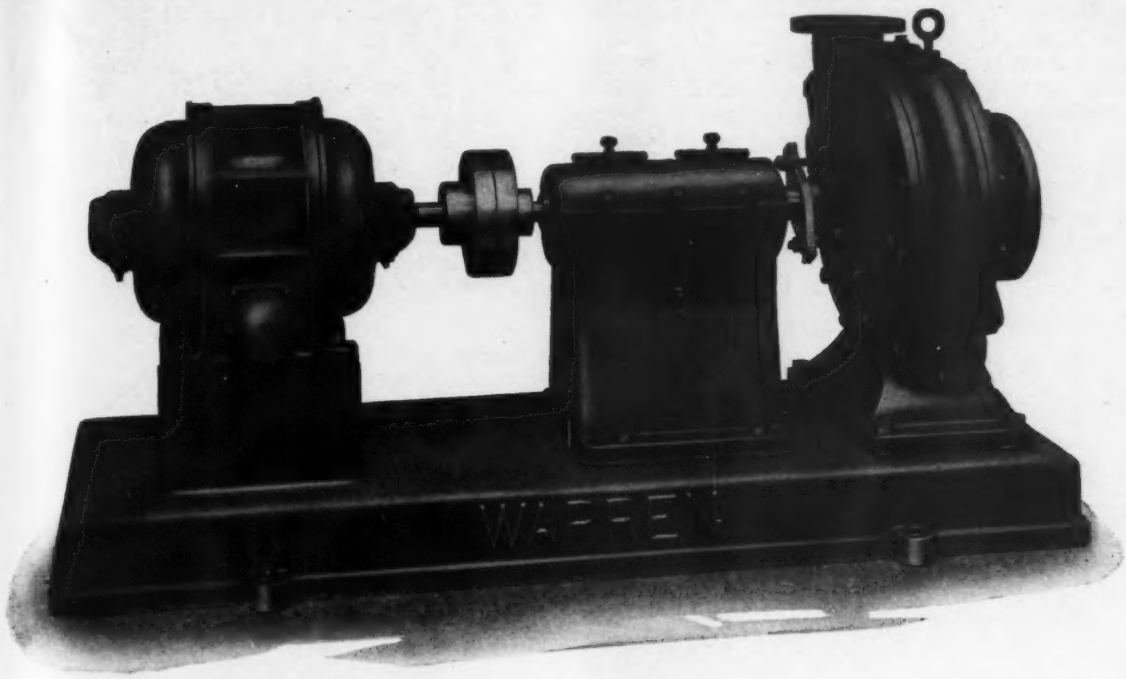
Halifax, N. S.—According to information at the office of the American Consulate, Halifax, H. W. Robertson, consul general, plans are under way for the construction of a new pulp and paper mill in this section to replace a plant recently destroyed by fire. The estimated cost has not been announced. Data available at the office of the Bureau of Foreign and Domestic Commerce, Washington, D. C. Reference Canada No. 218,638.

New Companies

New York, N. Y.—The Yorkville Card Company has been incorporated with a capital of $10,000, to manufacture paper and card specialties. The incorporators are B. Cohen and associates. The company is represented by Henry Kaufman, 154 Nassau street, New York.

New York, N. Y.—The Arrow Folding Box Corporation has been incorporated with a capital of $10,000, to manufacture paper boxes and containers. The incorporators are E. Y. and H. A. Spivack. The company is represented by A. M. Pariser, 51 Chambers street, New York.

Trenton, N. J.—The B. & R. Wall Paper Company has been incorporated with a capital of $25,000, to manufacture and deal



Why Is It Copied?

One pump manufacturer is not only building a pump that looks like the Warren Stuff Pump, copying its diagonally split case, but is even imitating the Warren renewable case liners which users have found so valuable for maintaining high efficiency.

"Imitation is the sincerest flattery." The Warren Stuff Pump is copied because it has proved itself a better pump.

Warren Stuff Pump *performance* cannot be imitated. Twenty-nine years devoted exclusively to the development of the highest standards of pump design, materials and workmanship are back of every Warren Pump.

That's why you should be careful to specify *Warren.*

May we send you a Bulletin containing complete information?

Warren 233

Steam Pump Company, Inc., Warren, Mass.

Boston Philadelphia Chicago WARREN New York San Francisco St. Paul

in paper products. The incorporators are Morris Rappaport, Rubin Blumberg and David Kelsey, 275 Clay street, Trenton. The last noted is company representative.

Niagara Falls, N. Y.—The Amendola Paper Bag and Twine Company has been incorporated with a capital of $10,000, to manufacture and deal in paper bags and containers, and kindred products. The incorporators are A. and K. Amendola. The company is represented by the Buffalo Accounting Bureau, Jackson Bureau, Buffalo, N. Y.

Chicago, Ill.—The Franklin Folding Paper Box Company, 217 West Huron street, has been incorporated with a capital of $14,000, to manufacture and deal in paper boxes and containers. The incorporators are Edward Herman, A. I. Gidwitz and Harry Stark.

Pulp Industry Expands in Finland

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 14, 1926.—Further investment in the construction of new plants or the expansion of existing plants in the chemical pulp industry has been a noticeable feature during the first half of the current year, says Assistant Trade Commissioner Kekich at Helsingfors on the Finnish market. This movement has been greatly stimulated by the lessened returns during the past few years on capital invested in the lumber industry. In recent months construction in the pulp industry has been so rapid that some fears have been expressed that the point of over-production is being reached, especially in view of similar expansion in other pulp producing countries. In the meantime the good demand for Finnish pulp in European markets has been of great benefit in counteracting the depression in the lumber markets.

Finnish exports of pulp and paper during the first half of the current year were somewhat under those of the corresponding period in 1925, ice conditions in the Baltic having hindered exports during the early months of the year and adverse economic conditions in a number of the principal European markets having further restricted shipments. Exports of groundwood have particularly been affected by the unstable conditions in European paper markets, shipments during the first half of the year having fallen off from one-third to one-half compared with the two preceding years. Chemical pulp exports fared much better, the lessened demand from paper mills being more than offset by the demand on the part of rayon manufacturers. The following table indicates the trend of expansion in the Finnish pulp and paper industry since the establishment of the republic.

EXPORTS OF PULP AND PAPER FROM FINLAND DURING THE FIRST SIX MONTHS OF 1913, 1923, 1924, 1925, 1926

(metric tons of 2,204.6 pounds)

Class	1913	1923	1924	1925	1926
Mechanical groundwood	20,340	23,013	46,526	37,781	25,285
Chemical pulp, sulphite	29,017	75,846	101,750	101,014	115,788
Chemical pulp, sulphate		27,265	31,186	39,998	35,368
Printing papers	32,704	62,163	64,060	73,405	71,186
Wrapping papers	30,962	13,498	13,448	14,502	15,363
Other papers	5,392	12,318	7,188	14,857	14,300
Boards	24,926	12,325	13,365	24,219	20,821

Bates Bag Co. To Build at Menominee

MENOMINEE, Mich., September 14, 1926.—Paper mill activities of Menominee are to become more extensive through erection of a large new building by the Bates Multiwall Bag Company. A contract for the work has been let to H. J. Selmer Company, Green Bay, Wis.

The building will be 80 feet wide and 240 feet long and will adjoin the plant of the Hoskin-Morainville Paper Company. The contractor has agreed to have it under roof by November 1. Temporary railroad tracks are being laid preparatory to excavation. The new unit will be principally of concrete and steel and will house considerable of the bag machinery.

Col. Fletcher to Represent Paper Industry

Upon the suggestion of the War Planning Division of the War Department, Norman W. Wilson, president of the American Paper and Pulp Association, recently appointed Col. Philip K. Fletcher of the Fletcher Paper Company as liaison officer to represent the paper industry in contacts with industry, being maintained by the War Department.

Col. Fletcher is a member of one of the best known paper manufacturing families of Michigan and at present is treasurer of the Fletcher Paper Company of Alpena.

At the outbreak of the war Col. Fletcher entered the First Officers' Training Camp at Fort Sheridan, Ill., and at the close of the camp early in 1917 he received commission as Captain of Infantry. His work in camp was so outstanding that he was retained there as a training officer, and at the close of the second training camp entered active service.

The War Department, through the War Planning Division, has

COL. PHILIP K. FLETCHER

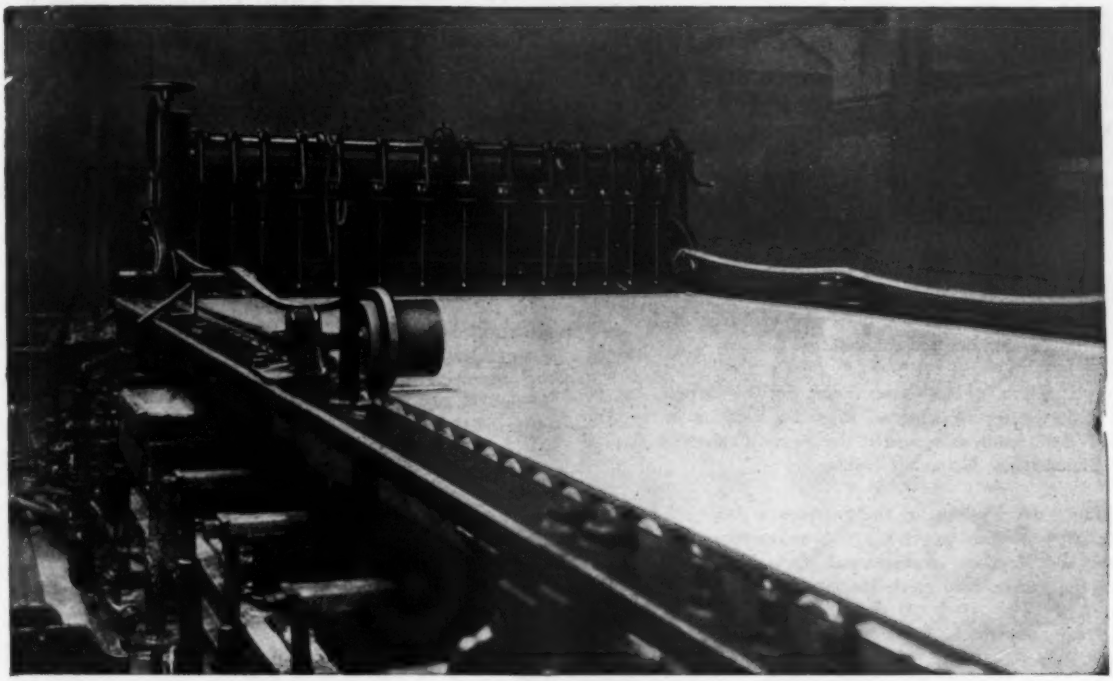
so-called commodity committees for every industry. These committees are composed of officers from the several branches of the service. They compile information on the various industries, in accord with the War Department's requirements, and plan for the procurement of materials in case of any future emergency. Some of the other great industries of the country have recently appointed liaison officers to sit in with the commodity committees concerned, both that the committee may know accurately as to the make-up of the industry and that the liaison officer may take the plans of the Department back to the industry which he represents.

The American Paper and Pulp Association is preparing very full information as to the paper industry for use of Col. Fletcher, who plans to spend some two weeks in Washington during September in close touch with the War Planning Division.

Swedish Pulpwood Prices Show Recessions

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 14, 1926.—Prices quoted the domestic Swedish market on wood pulp have shown some slight recessions recently, says a report to the Paper Division of the Department of Commerce from Consul General Dawson at Stockholm. The present offerings include; Bleached sulphite, first quality, $3.34 to $3.83; easy bleaching sulphite, $2.80 to $2.98; strong sulphite and kraft pulp, $2.55 to $2.80; all quotations per 100 pounds f.o.b. Swedish port. Mechanical groundwood is being quoted at $13.37 to $14.58 per short ton for wet pulp and $31.60 to $35.25 per dry ton.



Improvements that are worth having in Your Papers

Quality and uniformity identifies the master paper maker and the Voith Stock Inlet is doing much in establishing such prestige for its many users. The formation of their paper is cleared up and bettered in every way. Water streaks are guarded against and lumps and foam spots are less apt to form. The sheet is made of uniform caliper across the entire width of the wire. Light and thin spots even along the web are removed.

These Improvements are worth having and it costs no more to make your papers with these combined qualities if you install the Voith High Pressure Stock Inlet. We will be glad to give you complete information about this machine.

20-page Booklet on Request

A new 20-page booklet gives a complete description of the Voith High Pressure Stock Inlet, shows how it improves paper and how it lowers production costs. This booklet is written from the paper maker's viewpoint and the data it contains is substantiated by one hundred and fifty installations of the Voith Stock Inlet. Write for your copy today.

VALLEY IRON WORKS CO.

APPLETON, WISCONSIN

New York Office: 350 Madison Ave.

New York Trade Jottings

H. P. Gould, president and manager of the Gould Paper Company, Lyons Falls, New York, was a visitor in the metropolis last week.

* * *

The Hercules Powder Company, of 120 Broadway, New York, has declared the regular quarterly dividend of 2 per cent, payable September 25 to stock of record September 15.

* * *

The Stockholders of the Texas Gulf Sulphur Company, of 41 East 42nd street, New York, have authorized a split-up of the capital stock on a four for one basis and exchange of four new shares of no par for one present share of $10 par.

* * *

Milton L. Smith, of the News Print Service Bureau, has returned to duty after spending an enjoyable vacation in the Adirondacks. Mr. Smith also visited the Sesqui-Centennial Exposition at Philadelphia during his holiday.

* * *

The New York Division of the Salesmen's Association of the Paper Industry resumed its weekly luncheon meetings at the Town Hall Club last Monday. An informal discussion took place, and plans for the future were freely discussed.

* * *

At the request of the U. S. Department of Labor, the American Paper and Pulp Association have arranged with Adam Wilkinson, of the American Writing Paper Company, to attend the forthcoming meeting of the International Association of Public Employment Services, at Montreal, Que., on September 16, 17 and 18, and to address the convention on "Employment Conditions in the Paper Industries."

* * *

Professor Tor Jonson, of the University of Forestry, Stockholm, Sweden, one of the best known forestry experts in the world, visited the offices of the American Paper and Pulp Association, at 18 East 41st street, New York, last week, bringing letters of introduction from Director Christian Storjohann, president of the Swedish Cellulose Association, and Consul Lundgren, secretary of the Swedish Cellulose Association. Professor Jonson plans to make a comprehensive study of forestry conditions in the United States and Canada during the next three months.

* * *

Under a recent customs ruling, relief is granted to H. N. Hill & Co., the American Express Company and R. I. Murphy, Inc., in a decision reducing the rate of duty on certain Fourdrinier wire screens, used in connection with Fourdrinier machines for making paper. On entry the collector at New York imposed duty thereon at rates depending upon the fineness of the mesh of the screens, under paragraph 316 of the Tariff Act of 1922. The importers, in challenging this classification, claimed duty at the rate of 30 per cent ad valorem under paragraph 372, as parts of machines not specifically provided for. Their claim is upheld by the Customs Court.

* * *

The E. J. Keller Company, Inc., of 200 Fifth avenue, New York, announce the consummation of arrangements by which they become sole selling agents in the United States of the well and favorably known Zilina and Rosenberger wood pulps, whose productions are primarily bleached sulphite, but who, from time to time, also produce easy bleaching and unbleached sulphites. In justice to other merchants, the E. J. Keller Company desire to state that as a consequence of the Zilina and Rosenberger pulps heretofore having been marketed by direct sales to various importers, including themselves, it is not unlikely that others than themselves may appear as sellers until their holdings have been liquidated.

To Furnish Live Steam To Holyoke Paper Mills

[FROM OUR REGULAR CORRESPONDENT]

Holyoke, Mass., September 14, 1926.—Plans are being figured by the Holyoke Water Power Company to furnish live steam to local paper and other mills by means of conduits from the present power plant of the Holyoke Street Railway when the latter passes into the hands of the Water Power Company in a few months. By a contract between the Turners Falls Power and Electric Company and the Holyoke Street Railway Company the Turners Falls Company was to furnish power to the railway company allowing of the abandonment of its power plant which was to be taken over by the Turners Falls Company and sold for what it would bring. Later there was an agreement entered into with the Holyoke Water Power Company by which the Holyoke Company assumed the contract and is to take over the railway power plant.

Subsequent to this President Robert E. Barrett made a study of the situation and came to the conclusion that the present boiler outfit of the railway company was in excellent condition to furnish steam to factories. The company is now figuring with several concerns including two or three paper mills with excellent prospects of obtaining customers. The transportation of live steam a considerable distance is now commonplace and the water-power company believes it can save manufacturers thousands of dollars a year by so doing.

Oil Filtration and Purification

In August *Lubrication*, a publication of Texas Company, New York, is an extremely clear and well illustrated article on the filtration and purification of lubricating oil, that will be interesting to engineers and superintendents of paper mills.

It has been asserted that oils do not wear out in service, that they only become contaminated. This would appear to be borne out by the fact that a turbine oil can be run continuously for months with but a relatively small amount of makeup necessary to compensate for loss by evaporation or in the process of cleansing.

Lubricating oils may be reconditioned by precipitation and filtration, centrifugal separation and by mechanical coagulation of the impurities with suitable chemicals.

In purifying the oil the methods which are described may be applied by a periodic treatment of the entire volume of the oil involved—batch purification by continuous treatment of the oil or by continuous treatment of only the dirtiest oil from the bottom of the return reservoir.

The method to use will depend on the volume of oil involved, the degree of contamination and the class of service or type of equipment being lubricated.

The different methods are described with illustrations of recommended equipment and line drawings indicating arrangements in the plant.

German Concern Makes Rubberized Wall Paper

WASHINGTON, D. C., September 14.—A German firm has placed on the market a rubberized, washable wall paper, according to a report from Assistant Trade Commissioner W. E. Nash to the Commerce Department. The perfecting of this product has reached such a stage that it is now said to be equal to other wall papers in appearance and superior in endurance. According to the German makers, it is available in a great number of tasty designs and colors for use in hospitals, hotels, public buildings and summer houses. Its manufacture is supposed to be a secret of one firm, the Salubra Corporation. Turnover is claimed to have been excellent lately. Salubra or its similar product "Tekko" can be washed or disinfected repeatedly without deterioration. In fact water can be squirted upon it day and night without damage to color or texture the makers claim. The product has the appearance of wall paper, not oil cloth or linoleum.

BLEACHED and UNBLEACHED
SULPHITES
KRAFT PULPS
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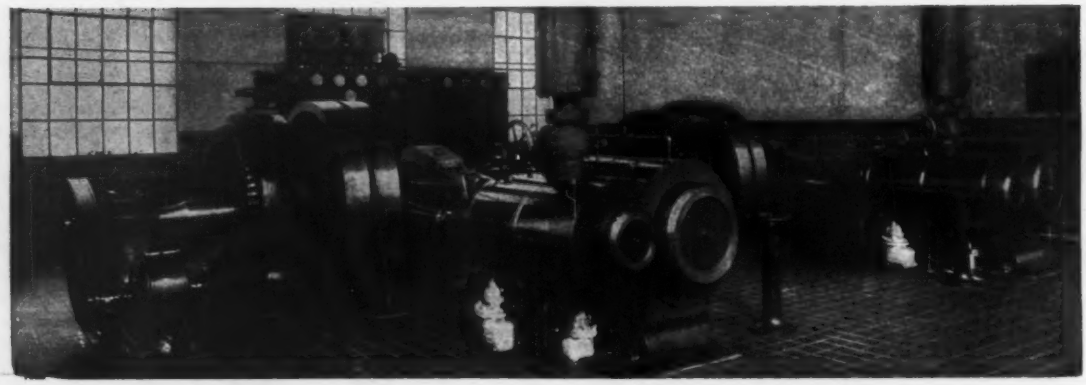
EVERY DESCRIPTION

Farnsworth Company Moves to Harrisburg

Simplified Construction, Production Methods and Volume Business

has made it possible to offer the lowest price high quality Unaflow Engine in the world.



Our Dual Clearance Unaflow Cylinder Applied to Your Old Engine Will Save 30% of Your Steam

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Dual Clearance Unaflow Cylinder in Color and
Valuable Engine Information

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1. A list of representative users of the Harrisburg Dual Clearance Unaflow Engines.
2. An interesting discussion of the dual clearance, Unaflow principle of steam engine operation.
3. A vivid discussion of steam engine valves and their adjustment.
4. Cuts illustrating the piston valve cycle of events as well as typical indicator cards taken therefrom.
5. Authoritative opinions of users of Dual clearance, Unaflow Harrisburg Engines.
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We guarantee that our Dual Clearance Cylinder fitted to your engine will save steam enough in one year to pay for the change.

Some Desirable Territory Still Open for Representation

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Engineers—Manufacturers—Contractors
HARRISBURG, PA.

FARNSWORTH DRYING SYSTEMS *SAVE COAL*

Paper Drying System, Boiler Feeders, Harrisburg Engines, Condensation Pumps

DRY STEAM

Duplex Regenerative Separating Receiver with Multiple Water Seal Control

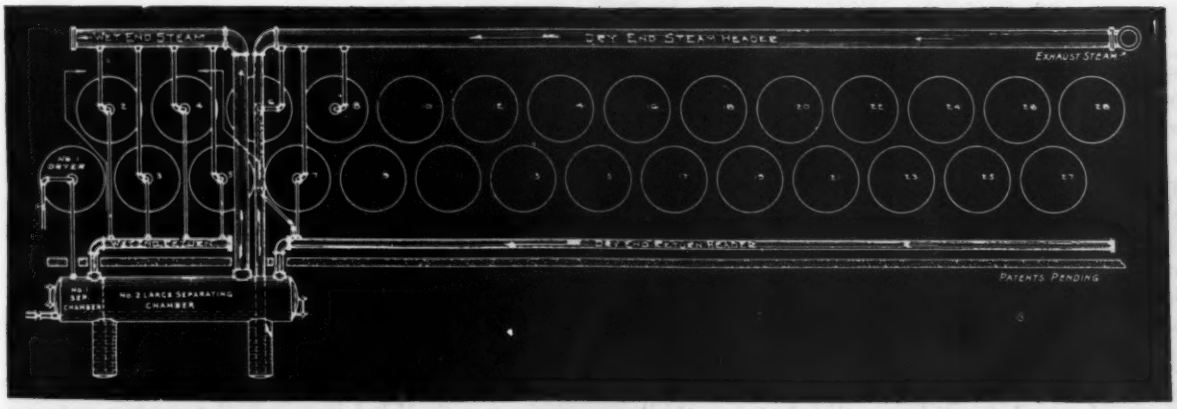
ALL AIR AND STEAM TO No1 DRYER
FINAL AIR ACCUMULATING CHAMBER
FINAL WATER
VERY DRY STEAM AND AIR TO WET END DRYERS
WATER
VERY WET STEAM AND ALL AIR FROM DRY END DRYERS
WATER

WATER SEAL REGULATORS *for* LIMITING PRESSURE DROP BETWEEN DRYER SECTIONS

Thousands of Pounds of Water Plus all the Steam that the Total Dry End Dryer Syphon Pipes will carry out of the Dryers is Blown Into this Chamber for Separation before Reentering the Wet End Section of Dryers.

No Working Parts

A Unit Combined with a System of Piping



Showing Farnsworth Drying System for extracting water and air from paper machine dryers.

PAPER TRADE JOURNAL
ESTABLISHED 1872
With Which Is Combined
[redacted]
The Magazine of the Paper Industry
HENRY J. BERGER, Editor

Member A. B. C. Audit Bureau of Circulations

Vol. LXXXIII New York, September 16, 1926 No. 12

NEWS PRINT CONSUMPTION

It is figured out by representative persons in the newsprint industry that if news print conditions continue for the balance of the year 1926 similiar to those of the first seven months for which records are available, the increased consumption of Canadian and U. S. news print during the current year will exceed 500,000 tons. In no previous year has the increase over the previous year been even one-half this total.

It is considered surprising that the market in the United States has shown itself not only able to absorb every additional ton that was turned out in Canada, but 700,000 tons from American mills over and above what was produced during the corresponding period of last year.

With regard to the prospect of a 500,000 increase for this year one authority says: "When it is considered that the total consumption of news print in the two countries in 1925 just exceeded 3,000,000 tons, some definite idea is possible as to what the increase of 500,000 tons, or nearly 17 per cent really means."

PAPER EXPORTS INCREASE

Exports of paper from the United States during July were valued at $2,232,158, thus registering a slight increase over the value for the preceding month and also July of last year, according to the Paper Division of the Department of Commerce.

Foreign shipments of boards were somewhat lower than during June, but were considerably in excess of those during the corresponding month last year, the largest gains having occurred in exports of box boards and bristol boards, which increased 100 per cent and 275 per cent respectively. Wrapping paper, including greaseproof paper, and sheathing and building papers were shipped in smaller quantities than during either June or July, 1925, but losses in these lines were more than offset by the heavy increases in shipments of newsprint and writing papers. Among paper manufactures and specialties, exports of tissue and crepe papers, towels and napkins, filing folders and office forms, papeteries, envelopes, cash register paper, and vulcanized fiber products show a rise in comparison with exports during the same month last year. Exports of paper bags and boxes, which have been showing a downward trend for some months, improved considerably over the month of June but were still under the level of shipments during July, 1925.

Exports of paper base stocks, which consisted largely of sulphite wood pulp and of rags and other waste, were valued at $376,313, a decrease of 13 per cent when compared with the preceding month and of 25 per cent in comparison with the corresponding month last year.

Imports of paper and paper products and of paper base stocks during July were higher than during the same month last year, imports of pulpwood, which were valued at $1,921,907, also exceeding the June receipts by approximately one-third. Imports of other classes of paper base stocks, amounting to 160,649 tons, valued at $9,426,383, and of paper boards, valued at $11,556,091, show a slight decrease, however, in comparison with the latter period, due principally to reductions in receipts of wood pulp and of newsprint paper. Imports of wrapping papers, pulp boards, and paper boxes were also under the level of the preceeding month, and wrapping papers and pulp boards under the level of corresponding month last year.

INCREASING VALUE OF TRADE MARKS

The enormous increase in registered trade marks during the past 25 years, particularly in the last decade, strikingly reflects the increasing importance of the marketing and distribution problem in our national economy, as well as revolutionary changes in our traditional channels of trade, according to a comparative study of trade marks and patents issued in the United States, made by the National Industrial Conference Board.

While 46,450 patents were issued in 1925, or 88 per cent more than had been issued in the year 1900, the number of trade marks issued in 1925 shows an increase of more than 800 per cent over that of 1900, amounting to 16,118 and 1,721 respectively. The reason for the recently much more rapid rate of increase in trade marks, according to the Board, is to be found in the modernizing of our entire system of distribution, in which the trademark, the branding of goods, advertising, chain stores and the mail order business play important parts.

With large-scale production, and the wide-flung operations of modern selling campaigns in which personal contact is giving way more and more to mechanized and almost automatic distribution methods, the trade mark as a protection of branded goods becomes more and more valuable. With its help, buyers in distant markets identify known products of known makers, and with the less and less frequent personal contact between buyer and seller, it serves as a guarantee of quantity and quality of a product with which they are acquainted.

A relatively small number of patents were issued before the year 1870, but their rate of increase later reflects the rapid development of machine industry and industrial technology which has taken place since that time. While trade marking did not increase appreciably until the beginning of the present century, the particularly rapid strides made in this direction during the last five years indicate, according to the Board, that business is now organizing large-scale distribution as it already has organized large-scale production.

The development of machine industry has proceeded at a fairly even pace in the United States and other countries, as the yearly number of patents issued in all countries indicates. While the

United States up to and including the year 1870 had issued 120,573 patents, all other countries combined during the same period had issued 273,653, a ratio of about 30 to 70 per cent. From 1871 to 1923, the same proportion holds, the United States issuing 1,366,379 patents, and all other countries combined 3,143,552. Great Britain during this period issued 575,058 patents; France, 545,728; Germany, 397,129; Belgium, 288,098, and all other countries, 1.338,539.

Geo. W. Sisson, Jr., To Judge Livestock

APPLETON, Wis., September 14, 1926.—Paper mill workers of the Fox River Valley will be offered courses in pulp and paper making and allied subjects on an extensive scale this season by the Vocational school at Appleton, Wis. Classes are to be held evenings, with a general invitation extended all employees to take part.

These courses are the result of extensive preparation by the school authorities, and to provide practical training in one of the most common of the industries of the locality. A special instructor, H. G. Noyes, has been added to the faculty to teach this craft. He made a very complete survey among 22 mills last spring in order to find out what the needs were. There are 3,854 persons employed in these plants located in six cities or villages.

Courses were prepared under three plans, part-time work at the local school, night classes at the school, and classes in the mills. The first is called the trade preparatory group, the second, the adult classes and the third, trade extension. Through arrangements between the Vocational school and three firms, these industries will provide the trade extension work. These are Menasha Printing & Carton Company, Menasha, Wis., Interlake Pulp and Paper Company, Appleton, Wis., and Thilmany Pulp and Paper Company, Kaukauna, Wis. It is planned to teach millwright, carpenter, pipe fitter and maintenance subjects in addition to paper making if there is a demand for such classes.

Following are subjects already offered to pupils: Characteristics and sources of pulpwood; paper making fibers other than wood; preparation of pulpwood; manufacture of mechanical pulp; manufacture of sulphite pulp; manufacture of soda pulp; manufacture of sulphate pulp; bleach manufacture and bleaching operations; size, sizers, fillers, filling and loading; colors, pigments and coloring processes; preparation of rags and fibers other than rags; beating; the Fourdrinier machine; the cylinder machine; other papermaking machines; paper finishing; paper testing; power and power transmission pumps; elementary paper mill chemistry; elementary electricity; advanced electricity; steam; water.

Howard Paper Co. Improvements

The Howard Paper Company, Urbana, Ohio, is in the midst of a very extensive building program to take care of the increasing demand for its advertised mill brands of water marked bond and ledger papers. A new 48 inch Seybold Automatic cutting machine is being added to the finishing room equipment, and in the power plant a new 800 h.p. Babcock & Wilcox Stirling type boiler equipped with Westinghouse stokers is being installed. A large warehouse was completed a short time ago, which will make it possible to carry a large stock at the mill of all weights, sizes and colors.

Efforts to Settle Norwegian Paper Strike

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., September 7, 1926.—The following official cablegram was received last week by the Paper Division of the Department of Commerce relative to the Norwegian paper strike:

"Paper strike continuing but strong attempt now being made to effect settlement which is generally expected will succeed."

To Urge Use of Union Water Marked Paper

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., September 11, 1926.—The International Brotherhood of Papermakers, with headquarters in this city, is planning a vigorous campaign this fall to have politicians, not only in New York State but throughout the country, use union watermarked paper in connection with their campaign literature. Announcement to this effect was made by William R. Smith, president of the Brotherhood, who declared that the matter had already been presented to the American Federation of Labor and approved. Union officials expect that the output of union-marked paper will be largely increased as the direct result of the proposed campaign.

President Smith said that many think they are using one hundred per cent union paper when the label of the printing craft appears on the sheet but to make it a one hundred per cent job union-marked paper must be used and the watermark of the papermakers' union is fully as important as the printed label of the printers. The cost of union marked paper, Mr. Smith said, is only a little more than the unmarked kind and politicians who have already been interviewed by union representatives have taken kindly to the suggestion.

Brotherhood officials, at the present time, are giving a great deal of attention to the building up of local unions in this country and Canada. President Smith during the past week visited Holyoke, Mass., for the purpose of conferring with union officials of that city. On Labor Day Mr. Smith was the principal speaker at exercises in Woodland, Maine. He later addressed the papermakers of Felts Mills, N. Y.

Arthur Huggins, of Holyoke, Mass., vice president, who has been spending his vacation in Texas, is again in charge of organization work at Three Rivers, Quebec, where considerable progress is being made in building up the local union in that place. It was stated at union headquarters here that the union has grown considerably since the inauguration of the membership campaign and officials regard this growth as a solid one.

For several years the membership of the International Brotherhood of Papermakers slumped year by year, reaching its lowest ebb at the time that President Smith took over the office he now holds. While much money is being spent in organization work union officials declare that the results already obtained justify the expense involved.

Paper Mills in Poland Increase Production

WASHINGTON, D. C., September 14, 1926.—During 1925 the total production of Polish paper mills reached approximately 94,000 short tons, with an aggregate value of $8,870,000 according to a report from Consul Walter A. Leonard, Warsaw, made public by the Department of Commerce. This amount exceeded the 1924 output by 56 per cent, but was not up to total mill capacity which is reported to be adequate for the production of more than 100,000 tons annually. Only in the month of September did the mills approach capacity production, a consistent activity being prevented by the shortage of operating capital which handicaps Polish paper manufacturers in granting as liberal credits as their foreign competitors.

Geo. W. Sisson, Jr., To Judge Livestock

[FROM OUR REGULAR CORRESPONDENT]

POTSDAM, N. Y., September 11, 1926.—George W. Sisson Jr., president of the Paquette River Paper Company, of this place, has been selected as a judge at the Livestock Show at the Sesqui-Centennial Exposition at Philadelphia. The live stock show will be held from Sept. 12 to 19. Mr Sesson has been interested in the raising of pedigreed Jersey cattle for many years and his large farm in this village contains some of the best blooded cattle in the state. His reputation as a raiser of pedigreed stock is nation-wide as is recognized by his selection as a judge for the Philadelphia show.

Announcing
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STRONGEST WOOD-FIBRE PAPER IN THE WORLD

THE modern tendency in the paper and textile industries has been the substitution of wood-fibre materials for the more expensive fabrics of linen, cotton, and silk.

The latest step in the March of Progress is the development of NORTEX, a paper *stronger than Kraft*, and comparable with rag and jute papers in color and quality.

If you have a strong-paper problem, either solved or unsolved, you will be interested in NORTEX, in white, manila, or special tints.

The Northwest Paper Co.
Cloquet, Minn.

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Chicago Sales Office
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At the Beaters!

A continually increasing number of paper mills are placing a **LaMotte Roulette Comparator** at their beaters because they are finding that it enables them to obtain better sizing, a more uniform product and marked economy in the amount of alum used.

The Comparator "De Luxe."
Patent Applied For

The LaMotte Roulette Comparator

measures the exact degree of acidity or alkalinity of solutions. And it does it rapidly and accurately. It is scientifically correct in principle yet so simple in operation that it can be used effectively by the average workman.

With this convenient apparatus, tests can be made frequently at the beaters and the operator can maintain a close control of the process at all times.

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Section of the

Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W. G. MacNAUGHTON, Secretary

Administrative Phrases of Stream Pollution Control*

By J. E. Monger, M. D., Director, Ohio Department of Health, Columbus, O.

The administrative aspects of the problem of stream pollution due to municipal and industrial factors which injure or destroy public water supplies, offer an interesting, practically new and almost unlimited field of discussion. The problem is not in a true sense new, for many communities have long been confronted with a localized problem, and much individual effort has been expended in attempting to find an adequate solution for it. Comparatively recent industrial efforts have, however, forced the issue, and what in the past has been mainly a locality problem is now a State problem, and if the present rate of industrial and municipal development continues it is only a question of time until prevention of stream pollution will be a national problem. The study of the Ohio River made by the United States Public Health Service under the direction of Dr. W. H. Frost well illustrates the ever increasing menace, and it is only fair to assume that the conditions revealed by this study would be found to exist to a greater or less degree on and along most of our great watercourses.

Major Effects of Stream Pollution

It is difficult to classify the major effects of stream pollution by municipal and industrial wastes in the order of their relative importance. There can be no question, however, that to the general public, the most important effect of pollution is the resultant increase in water-borne diseases through these contaminated water supplies that are used for domestic purposes. The relative value may differ in various communities, but in general they might be classified somewhat as follows:

1. The menace of a contaminated public water supply.
2. The creation of nuisance otherwise affecting public health and comfort.
3. The damage to property with resulting depreciation of values.
4. The killing of fish and other natural stream life.
5. The damage to live stock.
6. The impairment of recreational facilities and destruction of bathing places.
7. The damage to public and private river and harbor improvements and navigation.

To foresee what the future holds, it is only necessary for us to go back into the past and trace the developments which have led up to our present situation.

Ohio was primarily an agricultural state. Industry was largely confined to lake and river ports. Then canals, railroads, interurban lines, motor truck lines and the improved highway all made for creation of larger and larger centers of population built around one or several industries. It was inevitable that these industries, ever increasing in number and diversity, should seek to locate along streams, many of which were or became sources of domestic water supply. Into those streams they discharged their chemical wastes. The problem, therefore started with the steam engine, and grew along with the means and lines of communication and the resulting industrialization of the state. These chemical wastes destroyed the plankton which were the natural defenses against organic wastes, with the result that nuisances formerly destroyed by these natural agencies within the course of a few miles, are now carried great distances down stream, to enter most inevitably into the water supply of some unoffending city or village.

The Underlying Adminstrative Principles

The general administrative features that are to be invoked in dealing with this problem are common to all states, and the underlying principles will vary but little. The necessity for meeting the problems is present in all, although the ways and means may vary greatly, due to many factors which must take into account the quantity and quality of the various polluting agencies, the proximity of their points of discharge to water supply intakes, and similar important factors. These variants render a hard and fast consideration of administrative policies difficult. This discussion will deal with the general underlying principles and the methods employed in Ohio. We do not presume that these policies will meet all needs. We do contend that their enforcement has been essential in Ohio, and that every other state similarly situated will sooner or later face the problem of formulating policies to meet like conditions. Ohio, because of wide-spread industrial development which affects nearly every watershed within its boarders, and because of the unusually large percentage of people dependent on surface waters, all of which are polluted, probably has had a problem as acute as any other state will ever be required to meet.

At the onset we realize that any administrative approach to this problem must be backed by public opinion, and we first told the public of the importance to it of a pure and sufficient water supply. While it is somewhat trite to say that water is a state's

* Paper presented before the American Health Congress, Atlantic City, N. J., May 20, 1926. From *American Public Health Association.*

most valuable natural asset, it is nevertheless true, and the public was made to realize the significance of this fundamental truth. It is also trite to say that community growth depends on the community's morbidity and mortality figures. These two closely related factors, when properly understood, give the public a new viewpoint on not only the immediate, but the future importance of the issue. The correlated effects of morbidity and mortality figures on the dependence of present and future realty values gave the property owner and the tax-payer a personal interest in the successful solution of the problem.

We are not quite so sure of any phase of this work as we are sure that if we are really to accomplish anything it can come only through a thorough appreciation by the public of the importance of the objective. It is the old story of not what it will cost to do a thing, but what it will cost if we do not do it.

The Public Health Department Given Leadership

Convinced that the problem demanded solution, we came squarely to the question of what governmental agency should and could best attack the problem. We believed the answer to be that the public health administration, because of its major interest and in most instances because it already had existing technical organizations, should and must assume leadership. It always has been axiomatic that a public health administration's first duty is to secure an adequate and safe water supply, and the duty of preserving its safety naturally follows by inescapable implication. Without minimizing the important interests of other agencies, we believed that all would concede public health, safety and comfort to be primary considerations.

Most of the educational work of the past in connection with stream pollution had been carried on by individuals and organized groups interested only in the esthetic, recreational, or sporting phases of it. Practically nothing had been done to educate the public to the real danger, both immediate and ultimate, to public health. Right here lay a golden opportunity for a public health effort, and it has proved to be an effort that now promises more in accomplishment than does any other activity we have undertaken. This is a broad statement, but we firmly believe in its truth.

The Problem in Ohio

In Ohio we were driven to activity. Over three millions of our 6,500,000 people are dependent on surface water supplies, every drop of which is either actually or potentially polluted, and in some, if not many, instances, polluted to a degree that rendered immediate action necessary. One of our largest cities has found it necessary to chlorinate its water supply twice, in addition to filtering it. In many populous communities pollution had reached a point that rendered chlorination impracticable because of objectionable tastes. This had invited the use of less safe means of treatment.

In Ohio we have had for a generation a biennial legislative battle with organized sportsmen and agriculturists on one side, and organized industry on the other. Impossible laws attempting impossible ends were proposed. To protect fish in Ohio's inland waters and streams, bills were presented to the General Assembly that would have closed every coal mine in the State and would have cost manufacturers many millions of dollars. Organized industry effectively used the argument—"Which will it be, a six million dollar payroll or a six inch sucker?" The result was a legislative impasse.

Cooperative Effort Organized

In 1924 we asked the various organizations interested in stopping stream pollution to delegate a representative to talk over with us this problem in its general aspects, with a view to discovering whether or not some form of legislation could be drafted which would merit the support of all groups, and to make one concerted effort to turn back the dangers that threatened our water supply. Representatives of the League of Ohio Sportsmen, and The Izaak Walton League, representing very large memberships, the Ohio State Grange, the Farm Bureau Federation, and The Ohio Manufacturers Association, all powerful groups, met with interested State agencies, and after a long discussion it was found possible to frame legislation on which all could agree—legislation that would achieve the end and purpose sought by all.

The frankly expressed purpose of this legislation was not to protect fish life or recreational aspects, but rather to protect our water supplies from the mounting tide of pollution which was slowly but surely destroying the safety of these supplies, thereby affecting not sportsmen, fishermen, or farmers, but more than 50 per cent of the inhabitants of the State. An advisory committee consisting of duly accredited representatives of each group interested decided on the underlying principles, and drew a bill designed to meet the problem and to make the widest possible appeal. This bill was introduced at the request of the committee in both House and Senate, was almost unanimously passed, signed by the Governor, and became a law June 19, 1925.

The Ohio Law Described

This law is the most advanced piece of public health legislation bearing on the subject of stream pollution prevention in the country. It gives the State Health Department the same control over industrial wastes that it had over municipal wastes. It gives the Public Health Council power to make regulations designed to meet the varying needs of the different watersheds. This permits the zoning of sources of water supplies, and provides for their protection. It provides that new industries whose waste products may pollute streams, and established industries wishing to materially increase or change the character of their wastes, must file plans of treatment that are satisfactory to the Department. This important phase protects unpolluted water supplies and prevents increase in areas already polluted. Summarized, it limits our pollution problem now to its present dimensions, and permits the orderly consideration of each individual watershed according to the necessities of the case. Unpolluted water supplies are thus protected against pollution by new industries. An adequate system of treatment of wastes discharged into streams must be devised before the industry can discharge any waste at all into a stream that is the source of water supply. An industry already existing cannot change the character or quantity of the waste it discharges, unless it presents an adequate method of treatment. The very worst that can happen is that the problem will get no worse than it now is. And the public health department is empowered to deal with each case that arises on the merits of that case, always bearing in mind its relation to conservation of a healthful, uncontaminated domestic water supply for the city or village a few—or many— miles down stream.

An important feature of our law is that permitting the coordination of municipal and industrial effort, as it permits the creation of districts which may provide for a graduated control such as is so effectively illustrated in the case of the Neponset River near Boston.

The Problem of Industrial Wastes Discussed

The addition of industrial wastes to municipal sewage always results in an added public expenditure in the building of a sewage treatment plant. An interesting example of this is found at Dayton, where the city is planning a complete sewerage system and treatment works. The city made studies relative to the receiving into the city sewers of the untreated liquid wastes from certain paper companies, and these studies revealed the fact that if this were permitted it would increase the cost to the city of about 80 per cent of the total cost of the plant, or better than $700,000. It is also interesting to note that orders issued by the State Health Department to the paper companies at the same time the city received its official order, resulted in the installation of treatment methods at one of the paper plants, that, according to statements of the plant owners, have resulted in the saving

of 120 per cent annually on the entire cost of the installation. In other words, the installation has paid for itself in ten months.

After the passage of our anti-stream pollution law we were face to face with the problem of its enforcement. Under its terms we have ample police power to meet any necessities that exist or may arise, but with this power came the realization of the tremendous responsibility entailed upon the Department in any drastic enforcement of the law. Strict enforcement at the present time would go beyond public appreciation of the necessity for such enforcement. Basic laws are necessary as a foundation, but unless backed by public opinion, such laws become impotent.

In the stream pollution problem, a primary difficulty existed, due to the fact that no existing satisfactory and economically possible means of treatment existed for the wastes of many important industries. Even where such treatments do exist there is not a unanimity of opinion as to their worth. In brief, drastic enforcement would have meant the destruction of many industries. Their plants would have been closed.

Industrial Leaders Are Public Spirited

Consultation with the leaders of various industrial groups concerned taught us the important fact that they were just as anxious to meet the emergency arising out of stream pollution as we were anxious to have them. In these consultations we were brought to the realization of a fact that we believe to be of prime importance. In the vast majority of instances, a company or a corporation which is big enough to be important as a contributor of pollution, is headed by broad-minded, public spirited men who naturally have a deep interest in community growth and welfare. When the importance of preserving safe water is fairly presented to such men, they become not opponents of such efforts, but earnest supporters. In Ohio they were friends, not enemies. They did not seek to evade the law, but sought means whereby they could comply with it.

But official efforts directed toward individual offenders can never solve the question. It is so big, and so many fundamental things are involved, that from the start we realized it could only be solved by group effort. Competition is so keen in many lines of industry that added cost of even investigative efforts would be ruinous. If the cost of experimentation and demonstration of the efficacy of various proposed methods could be equitably distributed among all, it would mean that such endeavor was economically possible, because the plan and method would allow a fair competitive field. This suggestion met with practically general acceptance, and its fairness and justice were generally recognized by the groups concerned.

Industrial Group Organizations Formed

The Coke, Paper, Beet Sugar, Steel, Milk, and Canning Industries were separately invited to conferences. Each conference was attended by practically every member of the group. The problem in its general phases was fairly and frankly stated, and individual problems were then presented. In each instance there was no difficulty in securing an admission of both group and individual responsibility. Organizations for the sole purpose of collectively attacking their problems were perfected, and ways of financing them properly were devised. Executive committess empowered to conduct necessary experimentation and research were authorized. The group organizations have no relation to existing trade organizations, and were for the single purpose. We were and are kept advised of their progress, and we cooperate in every way possible. We stand on the principle, however, that after all it is their problem and they must solve it, and that the State has no duty to carry on research studies.

We presented the problem in its bearing on industry and public welfare; we demanded and obtained the means of solving it; we are cooperating with and working with Industry to attain the result we both seek. In the meantime we are going forward with a comprehensive plan of forcing, when and where necessary, the installation of municipal sewage treatment works. With co-ordination of municipal and industrial efforts represented by these group attacks on the problem of industrial wastes, and municipal installations, and with our problem confined to its present dimensions, we feel that the immediate future promises much, regardless of how great our industrial and municipal growth may be. During the present year various methods will be tried out in various industries and their worth evaluated, and as rapidly as economically possible methods are disclosed, individual plants will be compelled to install them.

Development of Preventive Methods by Industry

We feel justified in giving Industry the opportunity to develop such satisfactory and economical methods, and in this we are backed by public opinion. It is folly to try to enforce a law the terms of which are confessedly non-enforcible. No matter how strongly public opinion favored uncontaminated water supplies, in the abstract, public opinion would not sanction either unreasonable impairment or destruction of an important industry. Back of this approach is the acceptance of, and firm belief in the earnestness of the expressed wish and desire of industry to correct the dangers to the public that have grown with it.

We have believed and now believe in the Ohio manufacturers and business men, and we are confident that their combined interest, intelligence and resources will meet the problem. Business, and especially so-called big business, has a keen sense of the dollar-and-cent value of a favorable public opinion. It realizes that it cannot afford to encounter the general public condemnation that will surely arise if sources of water supply are destroyed.

If we were to summarize the things necessary to meet this problem of a future uncontaminated water supply we would place them in this order:

1. Drive home its necessity and importance.
2. Develop a civic and industrial conscience—if we may coin a phrase—that will not permit indiscriminate destruction of a great public asset.
3. Exercise a common sense degree of patience pending the development of economically possible methods of meeting the problem.

Industry will cooperate. Drastic or arbitrary measures will be mutually destructive. State laws are important, but it must be remembered that it takes much more than a legal gesture to solve the problem, and without the backing of public opinion such gestures are futile.

The question of the advisability of Federal legislation at the present time is a debatable one. A law general in its application would be impossible of enforcement, and any law at this time which goes beyond the possibility of reasonable and intelligent enforcement we believe would hinder rather than help. The interstate phase of stream pollution has been advanced as a reason for Federal control. Bills recently introduced in Congress would provide a law narrow in character and exceedingly drastic in its provisions. We believe these proposed laws could not be enforced because an equitable plan of enforcement does not suggest itself.

Actual Accomplishments Already Made

Under the plan devised in Ohio actual accomplishments of considerable moment have been made, and in several instances the industries concerned have not hesitated to make expenditures of sums running into hundreds of thousands of dollars in seeking a solution. Had we used police power in this attempt, the cases would not have reached the higher courts, even by this time.

The attack on the problem of the pollution of water supplies from the discharge of wastes from by-product coke plants, is an interesting and illuminating example of the effectiveness of this method of approach. Three years ago the Cleveland water supply was seriously damaged by phenol wastes. Conference of the local and State Health Departments with the local plants brought

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about a voluntary agreement on the part of the steel plants to stop this pollution. Within a year the three plants had completed an installation of a treatment process at a cost of several hundred thousand dollars. Aside from two or three instances due to breakdowns, the nuisance has been entirely eliminated.

In dealing with the problem in instances where several states are concerned, it is interesting to note that with the cooperation of the U. S. Public Health Service and other federal agencies, conferences of State Health Departments having this condition to meet were called on two occasions by the Surgeon-General of the United States Public Health Service.

Tri-State Organization Perfected

At the last Conference in Washington an organization of the Health Department of the states along the Ohio River watershed was perfected. The group thus formed met later at Pittsburgh with representatives of all the coke plants operating along streams in this area, and reached an agreement for treatment of wastes discharged into water supplies used for public purposes. Out of this meeting grew a realization on the part of all concerned that effective work in protecting the Ohio River could be done only through close cooperation among the states of Pennsylvania, West Virginia and Ohio, each of which had industrial plants which polluted water supplies of the others. The Tri-State Agreement was drawn up and signed by representatives of these states. The main principles involved in this Agreement contemplated uniform policies of control, legislation uniform in principle, and a community of state effort.

As proof of the inestimable value of this plan, at a meeting held last February, Pennsylvania was able to show 80 per cent correction of phenol pollution, and a pledge that the remaining 20 per cent would be cared for within a year. West Virginia has made substantial progress, and Ohio has 50 per cent accomplishment, with the other 50 per cent in process of construction. Kentucky by a resolution of the State Board of Health asked to be admitted to the terms of this Agreement. This was done, and Kentucky is now well on the way to 100 per cent correction. All this has ben accomplished in the friendliest spirit, without a single court action, and without the threat of a single suit.

Michigan and Ohio have common problems which affect the beet sugar, paper, milk, and canning industries. Inter-state agreements between Michigan and Ohio Health Departments have been recently signed providing for uniform policies in the control of industrial wastes in general, and judging from our experience in the past we have every reason to expect results from this cooperative effort. Thus, it seems to us that the success that has marked the cooperative efforts by states as represented by those and other like agreements, points the way to the logical method of attack of the interstate problem.

In these two important instances we have had the help and full cooperation of Dr. Charles Miner, Secretary of Health, and W. L. Stevenson, Chief Sanitary Engineer of Pennsylvania, Dr. W. T. Henshaw, Commissioner of Health, and E. S. Tisdale, Chief Sanitary Engineer, of West Virginia, Dr. Arthur MacCormack, State Health Officer, and F. C. Dugan, Chief Sanitary Engineer, of Kentucky, and Dr. Richard M. Olin, Commissioner of Health, John Baird, Chairman of the Board of Conservation, and E. D. Rich, Director of Engineering, of Michigan.

Without such constructive help this work would not have been possible. The United States Public Health Service has rendered every possible assistance in advice, counsel, survey and investigative work. The millenium has not arrived in this serious problem, but there is a graying in the dawn that presages the coming of a new day.

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Safety Code for Paper and Pulp Mills

Under the sponsorship of the National Safety Council there was undertaken the compilation of a safety code for paper and pulp mills. Through the AESC a representative sectional committee was organized and after repeated discussion and revisions, the code was finally approved and submitted to the American Engineering Standards after approval by the executive committee of the National Safety Council. The AESC approved the code December 8, 1925, as the Tentative American Standard.

The present code is supplemented by the following codes, complete copies of which may be obtained through the office of the American Engineering Standards Committee, 29 West 39th street, New York City:

Boilers. (Write American Society of Mechanical Engineers, 29 West 39th street, New York City.)
Building Exits.
Conveyors.[1]
Compressed Air Machinery and Equipment.[1]
Electrical (Fire) Code, National.
Electrical (Safety) Code, National.
Electric Power Control.
Elevators.
Floor Openings, Railings, Toe Boards.[1]
Grinding Wheels.
Head and Eye Protection (Goggles, etc.).
Ladders.
Lighting.
Lighting Protection.[1]
Logging and Sawmill Machinery.
Pipe Lines, Identification of.[1]
Power Transmission (including belts, gears, shafting, etc.).
Sanitation.[1]
Ventilation.[1]
Woodworking Machinery.

The safety code covers the following departments of the pulp and paper mill:

The Yard
Unloading and storage of pulpwood. The wood pile. Unloading and storage of raw materials.

Preparing Pulpwood
Saws; Hand Barkers; Barking Drums; Splitters; Chippers; Sorting Room; Dusting, Shredding and Rag Cutting Machinery.

Acid Making
Sulphur Burning; Acid Plants; Distributing Lines, Valves, etc.

Chemical Processes of Making Pulp
Sulphite Process. Sulphate and Soda Process. Bleaching.

Preparing Pulp for Paper Machines
Groundwood Process; Pulp Shredders and Presses. Beaters and Washers.

Machine Room
Operating Rules; Presses and Driers; Calender Stack; Winding Reels; Rewinders.

Finishing Room
Supercalenders; Sheet Calenders; Cutting and Trimming Machinery; Platers; Packing, Storing, Loading and Shipping.

Appendix
Overhead Structures; Bulletin Boards. Loose Clothing; Belts; Use and Care of Tools; Safety Organization.

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*Bull. of U. S. Bureau of Labor Statistics—Safety Code Series. Tentative American Standard, approved December 8, 1925, by American Engineering Standards Committee. Copies 15 cents from Superintendent of Documents, Government Printing Office, Washington, D. C.

[1] Codes being prepared and are not yet available.

The Rod Mill In The Pulp And Paper Industry*

By John D. Rue[1], and Sidney E. Wells[2]

New ways of attacking current problems and better means of producing old results in a given industry may often be found in an examination of the methods and equipment of quite unrelated industries. This general principle is admirably illustrated in the application to pulp and paper making operations of the rod mill, which for several years has been standard equipment for grinding ore in the mining industry.

During the last two years the Forest Products Laboratory has operated as part of its experimental equipment, a rod mill of "semi-commercial" size. It has proved to be an excellent means of reducing to fiber wood chips, cereal straw, and flax straw, after the material has been softened by mild chemical treatments; it has also been used successfully in reducing knots and screenings resulting from the chemical pulping processes. Besides acting as a grinder, it also serves as a continuous beater which effects hydration without excessive rupture of the fibers.

Description

The rod mill, as applied to pulp and paper production, may be briefly described as a hollow cylinder mounted on hollow trunnions so as to rotate about its long axis placed horizontally. The cylinder is lined with steel plates or with a special soft rubber lining inserted in the form of plates interchangeable with those of steel.

The cylinder is filled to nearly half its capacity with steel rods. The rods are only a few inches shorter than the inside length of the mill and lie parallel to the axis of rotation. They are free to tumble, but are always in a position essentially parallel to each other as the mill is rotated, the upper rods cascading continuously down the surface of the rod bed. The basic features of the mill will be evident by reference to Fig. 1.

Operation of the Mill

Reducing Softened Chips to Pulp

The shattering effect produced by a free-falling rod is desirable in grinding brittle mineral but is to be avoided in reducing softened chips to pulp. The mill is therefore rotated somewhat more slowly than is the practice in grinding ore. The mill installed at the Forest Products Laboratory (see Fig. 2) is 3 feet in diameter and 5 feet in length, inside measure, and for experimental purposes is rotated at speeds varying from 17 to 28 r.p.m. It is charged with 3800 pounds of steel rods. A mill recently installed in a commercial plant manufacturing semi-chemical pulp is 6 feet in diameter and 12 feet in length. It contains 42,000 pounds of steel rods and is rotated at 14 r.p.m. The diameter of the rods ranges in both cases from 2 to 3 inches.

The chips are fed by some suitable means continuously through one trunnion of the mill, the ground pulp flowing out through the opposite trunnion. Sufficient water is fed with the chips to form a pulp suspension at the outlet of 4 to 8 per cent.

The laboratory mill is equipped with a 15-horsepower motor. It consumes approximately 12-horsepower when operating at 28 r.p.m. and 8-horsepower at 19 r.p.m. The large mill requires approximately 90-horsepower to operate it at 14 r.p.m. The refining is done chiefly by the rods moving under the force of gravity. Since the major portion of the power is consumed in lifting the rods, very little difference can be noted in the power requirement, whether the mill contains pulp or not. For practical purposes the power necessary to grind a ton of wood chips is thus determined by the rate of feed, which in turn is dependent upon the nature of the wood, the degree to which the chips have been chemically softened, and the amount of hydration of the pulp which may be desired.

The following table shows some comparative figures for the capacity and power requirements of the Laboratory and the commercial mill operating on approximately the same material, viz, softened gum chips:

* Presented at Fall Convention of the Technical Association of the Pulp and Paper Industry at York, Pa., Sept. 14-16, 1926.

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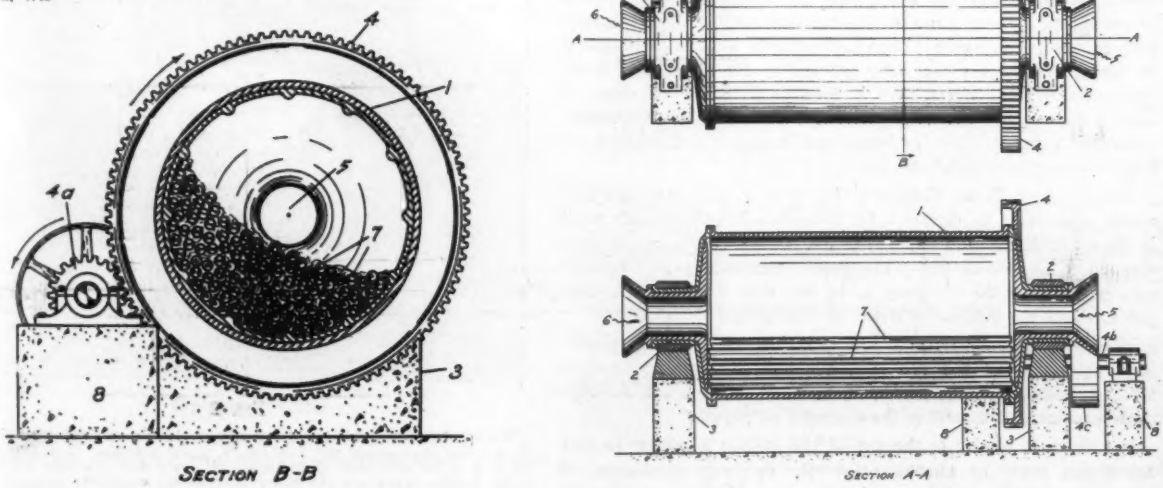

FIG. 1

A diagrammatic sketch of a rod mill showing a top view and sections through AA and BB. 1. is the shell, 2. the main bearings, 3. the main foundation, 4. an annular gear attached to the shell, 4a, 4b and 4c, the gear, shaft and pulley respectively for transmitting power to the mill, 5. and 6. the openings in the hollow trunions through which the material enters or leaves the mill, 7. the rods, and 8. the foundation for the power transmission.

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	Small mill	Large mill	Ratio of large to small mill
Capacity per 24 hours (tons)	0.5	10	20 to 1
Power required (horsepower)	12	90	7.5 to 1
Power per ton (horsepower-days)	24	9	0.38 to 1

The figures in the table are indicative of the order of magnitude in the two cases, but their accuracy is limited by a lack of exact knowledge of the degree in which the respective conditions of the chips and the pulp are comparable. There has been no favorable opportunity for very accurate experimental comparison as yet. It is of special interest to note that the large mill operating on chemically softened extracted chestnut chips has been shown in continuous operation to have a capacity of 15 tons per 24 hours, representing a consumption of 6 horsepower-days per ton of pulp.

Reducing Knots and Screenings to Pulp

Knots and screenings are readily reduced to pulp by the rod mill. From qualitative tests made with the Laboratory mill it is estimated that a 6 by 12-foot mill would have a capacity of from 10 to 20 tons per 24 hours, according to the character of the rejects to be ground. The power consumption would be only 4.5 to 9 horsepower-days per ton. Even with the low power requirement, considerable hydration is effected during the grinding operation. The indications are that much of the necessary beating to which refined screenings are usually subjected can therefore be eliminated, and the product made fully equal if not superior to that obtained by the most careful beater and jordan treatment.

The Rod Mill as a Beater

The value of the rod mill as a beater was revealed in a test made in 1924 by the Laboratory in cooperation with the Fletcher Paper Co. By a single passage through the mill Mitscherlich sulphite was hydrated sufficiently for the formation of a greaseproof paper. Both the bleached and the unbleached pulps gave satisfactory results. The paper made on the Laboratory 15-inch fourdrinier was exceptionally strong for a greaseproof and responded unusually readily to the blister test. The hydration was accomplished with less shortening of the fibers than is common in the beater preparation of greaseproof stock, and the pulp was consequently much freer on the paper machine wire.

This beating test was largely qualitative, and no accurate determination of power requirements was made. The indications were, however, that not more than 25 horsepower-days would be needed to convert a ton of Mitscherlich pulp in the laboratory mill to the high degree of greaseproofness attained. If the 6 by 12-foot mill bears the same relation to the small mill in its performance as a beater that it does as a refiner of chips, it should have a capacity of from 10 to 15 tons of completely greaseproof paper every 24 hours and a power consumption of 9 to 6 horsepower-days per ton.

The Fletcher Paper Company, for over a year has operated a rod mill 5-feet in diameter by 10-feet in length on pulp used in the manufacture of a paper which is not sufficiently hydrated to respond to the blister test. The power consumption of this mill was reported by the company to be less then 3 horsepower-days per ton and the product superior to that prepared in beaters.

In the manufacture of both sulphite and kraft wrapping papers it is probable that the rod mill will find desirable application. Little opportunity has thus far been found, however, for studying the value of the mill in those grades of papers.

For the best results in the use of the mill as a beater, further knowledge must be gained as to the optimum conditions of operation as influenced by such factors as relative quantities of pulp and water, rate of feed, speed of rotation of the mill, total rod charge, and size and density of the rods. An investigation of the factors just named is under way.

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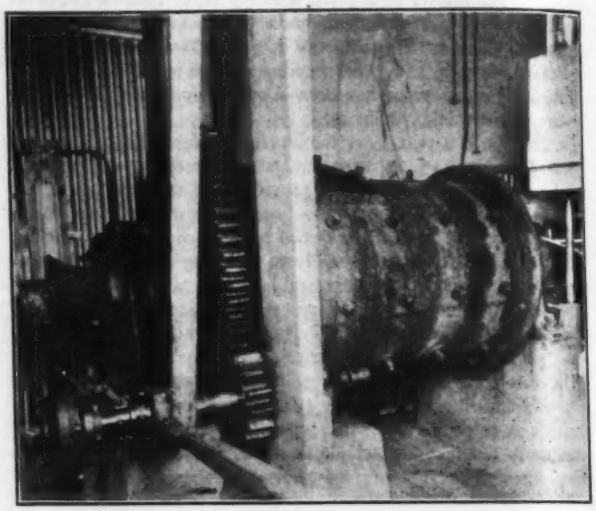
Acknowledgments

Grateful mention is made of the courtesy of the Allis-Chalmers Manufacturing Company, Milwaukee, Wis., for placing the small rod mill at the disposal of the Forest Products Laboratory for experimental use during a period of more than two years.



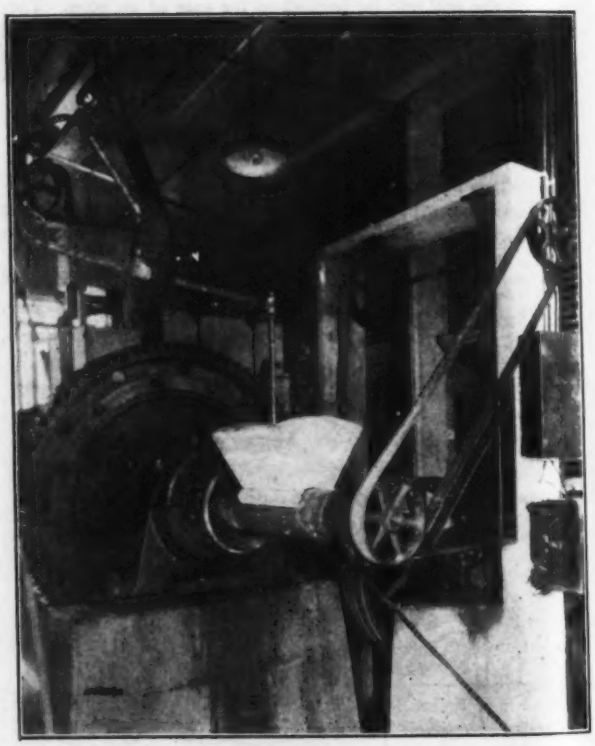


Fig. 2

The semi-commercial rod mill installed at the Forest Products Laboratory. It is 3 feet in diameter and 5 in length, inside measure. The upper picture presents a full side view of the mill; the lower and end view showing the screw feeding device and the power transmission equipment.

The early demonstration of the value of the mill as a beater was facilitated by the generous cooperation of the Fletcher Paper Company, Alpena, Mich.

Speed Reduction Methods

A Comparison Between Cone and Step Pulley Drives and Reeves Variable Speed Transmissions in a Number of New England Paper Mills

The following is a survey made by A. C. Nielsen Company, Engineers, Chicago, Ill., in collaboration with the chief engineer of the mills studied.

Methods Used to Vary Speeds

A variety of methods are used in the mills studied to vary the speeds of paper machines. Some machines are driven by variable speed d.c. motors, some by cone and step pulleys, and others by the Reeves variable speed transmissions made by the Reeves Pulley Company.

On the attached tabulation sheet are listed the Reeves drives installed in the various mills. The cutter drives transmit 10 to 15 hp. and the paper machines 40 to 100 hp.

Characteristics of the Reeves Transmission

The Reeves transmission is a compact mechanical unit which gives an accurately controlled range of speeds between definite predetermined limits. This unit will maintain the desired speed accurately; yet it may be changed instantly to meet any operating condition within its range.

The entire speed range may be covered smoothly, for there are an infinite number of steps. Changes can be made without stopping the machine.

The Reeves transmission is easily controlled at the drive itself, or at a remote point by means of mechanical or electrical control. In these mills the paper machine drives are controlled by means of hand wheels located conveniently on the machine floor, although the drives themselves are in the basement.

Comparison With Cone and Step Pulleys

Compared with cone and step pulleys, the Reeves transmission has the great advantage of permitting speed changes without interrupting production. On a certain machine, where the change in speed is greater than 2:1, the belt must be shifted on the step pulleys. Whenever this occurs the machine must be shut down for 15 minutes.

When a machine is making specialties the speed is changed many times daily. For a machine like No. 1, on which cost data is given, producing 500 lb. per hour, the elimination of one shutdown per day for changing speed saves $937.50 annually, and, if two shutdowns are eliminated daily, the annual saving is $1,875. The actual manufacturing cost is not available; hence these savings are calculated on the basis of an assumed manufacturing cost of $0.025 per pound, excluding raw material.

Since the Reeves transmissions are more compact than cone pulleys, they make more floor space available for storage purposes. The No. 9 Reeves unit on No. 1 machine saves approximately 180 sq. ft. of floor space which, at $0.35 per sq. ft. per year, is worth $63 annually.

Elimination of D. C. Generators

The Reeves transmissions on the cutters provide variable speed without the expense of installing d. c. generators and variable speed motors. Speed control is obtained directly from the available a. c. supply and without the inconvenience of the limited number of speeds that would be possible with an a. c. variable speed motor.

Operating Costs

The table shows the cost of operating the drive on the No. 1 paper machine which transmits 40 hp. and includes a No. 9 Reeves transmission.

The total annual cost amounts to $1,158.57, including depreciation, interest, repairs and lubrication. The daily cost is $3.62.

Maintenance Expense

It is interesting to note that only two V belts have been replaced in 8 years, whereas belts on cone pulleys in similar service last only 10 months and require tightening every 4 months.

Only one hour per day is required for lubrication and inspection, largely because the oil cups are very accessible.

The opinion of the chief engineer, at the mills, is summed up in his statement: "As a general rule, the Reeves transmissions have proved superior to the other means used in these mills."

REEVES DRIVES IN THE MILLS UNDER STUDY

Mill	Size	Class	Ratio	Serial Number	Machine Driven
1	10	C	6:1	17126	No. 2 machine
2	4	F	3:1	14460	80" cutter
3	9	D	5:1	10768	No. 1 machine
4	10	C	6:1	23003	No. 2 machine
5	4	F	3:1	20739	60" cutter
6	4	F	3:1	28813	60" cutter
7	2	C	6:1	12150	Cutter
8	6½	D	5:1	12138	Barber dryer
9	6½	D	5:1	12139	Barber dryer
10	4	F	3:1	.....	115" cutter
11	8	D	5:1	7312	No. 1 machine
12	3	C	6:1	.....	Rag conveyor

Total of 12 drives.

DATA ON DRIVE FOR NO. 1 MACHINE—NO. 3 MILL

Width of machine	48"
Speed range	30 to 235 ft. per min.
Approximate hp.	40
Drive:	
1 No. 9 Reeves transmission	
R.p.m. of driven pulley	185
Diameter of driven pulley	44"
Face of driven pulley	12"
Step pulleys on driving shaft of Reeves transmission—32" and 16" diameter, 12" face.	
Pulleys on variable speed shaft—32" and 49" diameter, 12" face.	
Investment:	
1 No. 9 Reeves transmission	$2,520
Pulleys, belt, installation, freight, etc.	3,000
Total	$5,520

OPERATING COST

Depreciation, based on 10 year life		$ 552.00
*Average interest at 6%— $\frac{11 \times \$5{,}520.00 \times .06}{10 \quad 2}$		182.16
Repairs on Reeves transmission, to date:		
2 discs with pins	$ 348.46	
2 thrust bearings	199.78	
2 rubber V belts	342.72	
Babbitt	12.00	
Labor	500.00	
Miscellaneous	50.00	
Total for 8 years	$1,452.96	
Repair cost, per year		181.62
Maintenance on step pulleys and leather belt:		
New belt after 5 years $234.00		
Cost per year—$234.00 ÷ 10 years	$23.40	
Taking up belt—3 times per yr. × 2 hrs. × $.765	4.59	27.99
Lubrication:		
Oil—60 gal. @ $.38 per gal.	$ 22.80	
Labor—320 hr. @ $.60	192.00	214.80
Total cost per year		$1,158.57
Cost per day—$1,158.57 ÷ 320 days		3.62

* Allowing for interest earned by depreciation reserve.

CALCULATION OF SAVING IN PRODUCTIVE TIME DUE TO USE OF REEVES TRANSMISSIONS

Average production, per hour	500 lbs.
Estimated manufacturing cost, per pound (raw material not included)	$.025
Time required to change belts on step pulleys	15 minutes
Annual saving:	
Based on one change per day— $\frac{300 \text{ days} \times 15 \text{ min.}}{60 \text{ min.}} \times 500 \text{ lbs.} \times \$.025$	$ 937.50
Based on two changes per day— $\frac{300 \text{ days} \times 30 \text{ min.}}{60 \text{ min.}} \times 500 \text{ lbs.} \times \$.025$	$1,875.00

TECHNICAL SECTION, PAGE 99

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts of Literature of the Technical Association of the Paper Making Industry

Clarence J. West, *Chairman*

Fluorescence Experiments With Commercial Sulphite Pulps. H. Kirmreuther, E. Schlumberger and W. Nippe. Papierfabr. 24, 106-107 (Feb. 14, 1926). The violet fluorescence appearing when unbleached sulphite pulp is exposed to ultraviolet radiations increases in intensity with the increase in the chlorine consumption number of the pulp. Aqueous waste sulphite liquor shows a similar luminescence. Bleached pulps fluoresce only a faint green-blue. Prolonged exposure to ultraviolet radiations yields a browning of the pulp and a less intense fluorescence. The relative degree of cooking or bleachability of two pulps may be readily ascertained by comparison of their fluorescence properties.—J. L. P.

Suggestions for the Construction of a Modern Sulphite Pulp Mill. E. Belani. Papierfabr. 24, 173-177 (Mar. 21, 1926). The application of recent developments in sulphite pulp mill practice is discussed. Considerable space is given to the Fresk device for filling the digester.—J. L. P.

Charging Sulphite Digesters. W. D. Gregor, W. M. Osborne and A. J. Kemzura. U. S. pat. 1,565,090, Dec. 8, 1925. The digester is partially filled with cooking liquor, the chips are fed into the partially filled digester in such amount as will permit its circulation during the cooking, and the remainder of the acid required for cooking is then introduced.—A. P.-C.

Preventing Corrosion of Steel Digesters. F. G. Rawling. U.S. pat. 1,566,118, Dec. 15, 1925. Soda ash, sodium phosphate, sodium silicate, borax or other sodium salt of a weakly ionized polybasic acid is added to an aqueous solution of sodium sulphite to be used for pulping wood in a steel digester, with subsequent addition of a solution of caustic soda to the contents of the vessel during the cooking operation.—A. P.-C.

Device for Relieving Sulphite Pulp Digesters With the Recovery of the Sulphurous Acid and the Waste Heat. Zellstoffabrik Waldhof, A. Schneider and C. Hangleiter. Ger. pat. 425,195; addition to 350,471. Papierfabr. 24, 196 (Mar. 28, 1926); Zellstoff U. Papier 6, 174 (Apr., 1926). A suitable arrangement of injectors for the utilization of waste digester gases is made.—J. L. P.

Control of Sulphite Pulp Cooking. J. E. Fleury. U. S. pat. 1,562,217, Nov. 17, 1925. A sample of liquor (preferably 50 cc.) drawn from the digester during cooking, is treated with alkali (preferably 25 cc. of 1:5 ammonia water) and alcohol (25 cc. of 1:1 ethyl or methyl alcohol). The solution is filtered, diluted to a given volume and the color is compared in a Hess-Ives tintometer with standard samples corresponding to given strength and bleach requirements of the finished pulp.—A. P.-C.

Manufacture of Sulphite Liquor. Lurgi Apparatenbau Ges. Ger. pat. 426,386. Papierfabr. 24, 262 (Apr. 25, 1926). An electrical precipitating device removes the selenium and arsenic from cooled sulphur gases.—J. L. P.

An Experimental Sulphite Pulp Digester in Norway. A. Goy. Wochbl. Papierfabr. 57, 152-153 (Feb. 6, 1926). A short description of the experimental sulphite digester equipment for the Norwegian Research Institute.—J. L. P.

Carbon Dioxide Formation in Sulphite Cooking. Anon. Zellstoff U. Papier 6, 74 (Feb., 1926). Experiments show that increasing amounts of carbon dioxide are formed as the temperature is raised. Gases evolved from the digester at 108° C. contained 32% carbon dioxide, and at 145° C., 56% carbon dioxide. More sulphur dioxide can be recovered by operating at a comparatively low temperature.—J. L. P.

Penetration of Spruce Wood by Calcium and Magnesium Bisulphite Liquors. C. G. Schwalbe and K. Berndt. Papierfabr. 24, 250-253 (Apr. 25, 1926). The rate and degree of penetration of calcium and magnesium bisulphite cooking liquors are dependent on (1) the swelling of the wood, which is determined by the kind, age, period of storage, moisture content, etc., of the material; (2) the composition of the cooking liquor; (3) the temperature and pressure; (4) the duration of the penetration period; and (5) the circulation of the liquor and of the wood in the digester. Of these factors the moisture content is the most important. From penetration experiments on spruce wood over a period of 8 hr. and at 60 to 70° C., with (1) calcium, (2) magnesium, and (3) calcium-magnesium bisulphite cooking acids, no difference in the absorption was observed. Furthermore, no selective absorption of the individual components of the acids was shown at the end of the 8 hr. period. Penetration experiments covering a period of 3 hr. indicated an absorption of 126 to 137%, as against an absorption of 140 to 150% at the end of the 8 hr. During the first stage of the sulphite cooking process the penetration proceeds in a similar manner with both calcium and magnesium salt solutions.—J. L. P.

Use of Magnesia Cooking Liquors Containing Large Amount of Bases. K. Berndt. Papierfabr. 24, 233-238 (Apr. 18, 1926). A review of the literature relating to the use of sulphite pulp cooking liquors containing magnesia. 43 references are given.—J. L. P.

Production of Pulp. B. S. Summers. Can. pat. 246,537, Feb. 3, 1925. From 1 to 4% of phosphoric acid or of a soluble phosphate is added to the digesting liquor.—A. P.-C.

Cooking Process for Straw and Wood Rich in Resin. V. Brot. Papier, No. 1 (1926); Zellstoff U. Papier 6, 161 (Apr., 1926). Using sodium or ammonium sulphite in cooking straw, an easy bleaching pulp is obtained with a 10% higher yield as compared to the soda process. Bleachable pulp from pine wood is possible by the use of ammonium sulphite, with a yield exceeding 50%, although some resin is present. A more easy bleaching pulp is produced by cooking with sodium sulphite.—J. L. P.

Production of White Sulphite Pulp From Highly Resinous Woods. E. F. Heyerdal and A. S. Thunes Mekaniska Verksted. Fr. pat. 601,757, Aug. 10, 1925. Failure to obtain sulphite pulp directly from highly resinous woods is due to the fact that the liquor does not penetrate properly into the wood. It is essential that the wood should be thoroughly impregnated before the contents of the digester reach a temperature of 110° C., as the portions of the wood which have not been penetrated when this temperature is reached remain uncooked. This penetration is readily obtained by using a magnesium bisulphite liquor instead of a calcium bisulphite liquor.—A. P.-C.

Combined Sulphate-Sulphite Process for Resinous Woods. B. T. McBain, J. E. Alexander and G. Genberg, assignors to Nekoosa-Edwards Paper Co. U. S. pat. 1,560,591, Nov. 10, 1925. In making light-colored paper from resinous wood, the wood is treated by the usual sulphate process and the resulting pulp is then cooked with acid sulphite solution.—A. P.-C.

Quick-Cook Sulphite Process. P. C. Ulmen, H. H. Becker and R. T. Mann. U. S. pat. 1,560,881, Nov. 10, 1925. In discharging "quick-cook" sulphite digesters, the spent liquor is strained off and cold water is simultaneously injected quickly to reduce the temperature and pressure within the digester. The cooked chips are then washed out.—A. P.-C.

Relation Between Cooking Conditions and Yield and Quality of Sulphite Wood Pulp. R. N. Miller. Pulp & Paper, International No., 117-122 (Feb., 1926). A discussion of the effects of penetration of the chips by the acid, circulation in the digester,

time and temperature of cooking and acid composition from the standpoint of yield and quality of pulp.—A. P.-C.

Sulphite Waste Liquors

Recent Developments in the Utilization of Waste Sulphite Liquor. S. Hilpert. Papierfabr. 24, 145-148 (Mar. 7, 1926). When waste sulphite liquor is treated with chlorine not only an oxidation occurs, but also there is a simultaneous substitution and more than 20% hydrochloric acid is evolved. The chlorinated products are precipitated as a brown powder. Such substances may be used in the tanning industry. A product containing over 30% chlorine was prepared from a diluted liquor. The higher the chlorine content, the more stable is the product. When chloric acid-hydrochloric acid mixture is used, a bright yellow substance is obtained which is partly soluble in water and reacts acid, a 5% solution being 0.00016 normal in hydrogen ions. Its behavior towards alkali is apparently analogous to chloranil. The toxicity of chlorinated waste sulphite liquor (1% solution) is pronounced towards members of the cocci group, and less towards the coli group of bacteria. A 1% solution acted as a disinfectant in 16 minutes on both organisms. Similar compounds, such as chloranil, chloranilic acid, and quinone, do not possess this property to the same degree. The presence of a sulphonic acid group in waste sulphite liquor probably accounts for its behavior towards acid sensitive bacteria. The chlorinated compound is non-toxic and odorless.—J. L. P.

Recovering Waste Sodium Monosulphite Liquors. V. Drewsen, assignor to West Virginia Pulp & Paper Co. U. S. pat. 1,560,900, Nov. 10, 1925. The waste liquor is concentrated until it contains only about 50% of water and is mixed with niter cake and with 10 to 30% of hydrated lime to fix the organically combined sulphur and minimize its elimination. The mixture is then incinerated and melted to produce soda ash and calcium sulphide, the sodium salts are leached out, and the residue is treated to form sulphur dioxide which is combined with the sodium salts to form sodium monosulphite for preparing fresh cooking liquor.—A. P.-C.

Recovering Sodium Acid Sulphite From Sulphite Waste Liquor. J. Beveridge, assignor to J. B. Beveridge. U. S. pat. 1,560,649, Nov. 10, 1925. A portion of the waste liquor, after draining from the pulp, is neutralized, for instance, with caustic soda or with soda ash, evaporated, mixed with unneutralized liquor, carbonized, and the carbonized product is leached with water to remove the soluble constituents and the solution thus produced is treated to effect the formation of sodium acid sulphite.—A. P.-C.

Evaporating Sulphite Waste Liquor or Other Liquids. G. Bojner. U. S. pat. 1,561,636, Nov. 17, 1925. Combustion gases are passed through a rotating heater immersed in the liquid to be evaporated and the heater is rotated with sufficient speed substantially to avoid incrustation.—A. P.-C.

Fuel and Other By-Products From Sulphite Waste Liquor. C. G. Schwalbe. U. S. pat. 1,564,142, Dec. 1, 1925. The waste liquor is mixed with sawdust and with magnesium, calcium or sodium chloride, and the mixture is heated to 150° to 200° C., under pressure to produce a material adapted for use as a fuel after leaching out soluble salts, etc. Acetic acid and methanol can be recovered from the solution.—A. P.-C.

Chlorinating Sulphite Liquor. A. Schmidt. U. S. pat. 1,567,395, Dec. 29, 1925. The liquor is first treated with chlorine gas and the resulting material is then further treated with nascent chlorine formed, for example, by use of chlorate and hydrochloric acid. The products thus obtained is suitable for use in tanning or resin substitutes.—A. P.-C.

Waste Sulphite Liquor Carbonization by Means of Mordant Salt Solutions. C. G. Schwalbe. Zellstoff U. Papier 6, 113 (Mar., 1926). By the addition of aluminum, iron, or chromium sulphates to thickened waste sulphite liquor, the corresponding salts of lignosulphonic acid are formed. Carbonization of the organic substances occurs when the solution is heated for 2 hr. at 180° C. under 10 atmospheres' pressure. The carbonized material is a good adsorbing agent. The carbonization is not complete if dilute waste sulphite liquor is treated with ferric sulphate.—J. L. P.

Use of Waste Sulphite Liquor in the Treatment of Leather. O. Roehm. Ger. pat. 419,778. Zellstoff U. Papier 6, 85 (Feb., 1926). In the manufacture of leather the hide is treated with an iron salt, an alkali silicate, and waste sulphite liquor. A mixture containing 50 kg. waste sulphite liquor (20° Bé.), 20 kg. of a 5% iron chloride solution, and 25 kg. commercial water glass (36° Bé.) in 125 l. water, is sufficient to tan 100 kg. pickled hides.—J. L. P.

Waste Sulphite Liquor as a Tanning Extract in the Leather and Textile Industries. W. Bruckhaus. Wochbl. Papierfabr. 57, 310-312 (Mar. 13, 1926). Several practical recipes for the preparation of tanning extracts containing waste sulphite liquor are given.—J. L. P.

Use of Waste Sulphite Liquor in Tanning. H. Stinnes-Riebeck, Montan & Oelwerke. Ger. pat. 423,096. Zellstoff U. Papier 6, 133 (Mar., 1926). Waste sulphite liquor (30° Bé.) is treated with p-toluolsulphochloride at room temperature with stirring. After 30 min. the mixture is warmed on the water bath and allowed to react. The resulting esterified waste sulphite liquor can be used as a tanning material.—J. L. P.

Tanning Composition from Sulphite Waste Liquor. T. Blackadder and H. C. Reed, assignors to Robeson Process Co. U. S. pat. 1,555,782, Sept. 29, 1925. A sulphite waste liquor preparation is made with an acidity expressed in terms of acetic acid, equal to about 15% of the dissolved solids, and with substantially no ash-forming constituents other than calcium sulphate. This liquor may be used in tanning or plumping.—A. P.-C.

Tanning Composition from Sulphite Waste Liquor. J. Breedis, assignor to Rohm and Haas Co. U. S. pat. 1,563,010, Nov. 24, 1925. Marrikino gum or other natural tanning material is heated with sulphite waste liquor in the presence of free alkali, such as caustic soda, until chemical reaction occurs, and the product is then acidified, to produce a substance which has better tanning properties than the constituents.—A. P.-C.

Alkaline Processes

Absorption of Sodium Hydroxide by Sulphate Pulp from Caustic Soda Solutions and Black Liquor. C. Kullgren. Papierfabr. 24, 153-155 (Mar. 14); 186-189 (Mar. 28); 206-208 (Apr. 4, 1926). The use of direct and indirect methods for determining the absorption of sodium hydroxide by fibers is discussed, the latter being preferable. The absorption of water by the fibers is not sufficient to affect the absorption determinations by the indirect method. The absorption of sodium hydroxide from a 3.5% solution at 28° C., by kraft pulp is practically independent of the rate of agitation after a contact period of 2 hr. The initial absorption rate is very rapid and the amount of sodium hydroxide absorbed decreases with rising temperature according to the equation $A_t = 2.88 - 0.0155t$, where A_t is the absorption and t is the temperature in degrees C. Practically a linear relationship existed between the alkali absorption by the kraft pulp and the concentration of the alkali solution up to 8%. An almost identical curve was indicated by a bleachable pulp. The conclusion is reached that a sulphate pulp is probably easily freed of alkali by washing. Sodium chloride increases the absorption. From experiments with black liquor it is shown that the absorption is reversible and acts rapidly in both ways under the proper conditions. Warm water can be used advantageously in the diffusers to reduce absorption.—J. L. P.

Alkali Requirement in the Production of Wood Pulp. A. St. Klein. Zellstoff U. Papier 6, 70-71 (Feb., 1926). The alkali requirement for the digestion of wood according to Klason and Christiansen is 20% of the weight of the wood, which is an excessive figure. Numerous examples are cited where 16 to 18 kg. of alkali per 100 kg. dry wood are sufficient.—J. L. P.

Physical Chemistry of Wood Cellulose Preparation. S. Arrhenius, Paper Trade J. 82, No. 15, 65-66 (Apr. 15, 1926). From mathematical deductions based on Bruun's work, as reported by Schmidt-Nielsen (Norwegian Paper J. No. 16, 1923), the author concludes that: (1) Bruun's experiments on the solubility of wood chips in solutions of caustic soda, sodium sulphide and sodium

sulphate permit of calculation with good results according to the laws of monomolecular reactions. (2) The effect of temperature on the velocity of reaction can be computed by the well known reaction velocity formula $r_1 = r_2 A(T_1 - T_2)/T_1T_2$. (3) The reaction constant is proportional to the concentration of the attacking liquor. (4) The reaction velocity of the solution of the encrusting materials by soda liquor is, at 140° C., about 28 times greater than that of cellulose; at 170° C., the ratio has sunk to 8.7:1; and at 270° C., both processes would progress at approximately the same rate. (5) The reaction constants decrease somewhat both for encrusting matters and for cellulose with increasing solution. (6) The velocity of the solution of encrusting matters is somewhat greater in sulphide solution or in sulphate liquor than in soda liquor of equivalent strength, while the rate of solution of cellulose is less in sulphide or sulphate liquors than in soda liquors, which explains why the sulphate process gives a stronger pulp than the soda process.—A. P.-C.

Keebra Pulping Process. L. Bradley and E. P. McKeefe. U. S. pat. 1,572,840, Feb. 9, 1926. A cooking liquor is used containing sodium thiosulphate and a quantity of caustic soda in excess of that required to decompose silicates and aluminates in the material treated.—A. P.-C.

Modern Soda Pulp Mill Operation. W. C. Munro. Pulp & Paper, International No., 155-160, 179 (Feb., 1926); Paper Ind. 7, 1769-1771 (Feb., 1926). Detailed description of the mill of the Tonawanda Paper Co. at No. Tonawanda, N. Y.—A. P.-C.

Circulation System for Digesters. K. K. Morterud. U. S. pat. 1,548,477, Aug. 4, 1925. A vertical perforated pipe is mounted in the center of the digester and one or more annular perforated pipes are mounted around the central pipe. The liquor is drawn through the perforated pipes, passed through a heater, and forced back into the digester.—A. P.-C.

Preparation and Pulping of Resinous Wood. J. H. Wallace assignor to Pine Waste Products, Inc. U. S. pats. 1,560,446, 1,560,447 and 1,560,448, Nov. 3, 1925. Resinous wood such as pine is chipped and then subjected to extraction with a distillate from resinous wood, having a boiling point of 170 to 185° C., or a similar solvent, as long as extraction of resinous substances readily takes place. The extract is then separated and the wood is pulped with alkali. Residual non-volatile and resinous substances are recovered from the spent alkaline solution. *1,560,447* covers the process of preparing the chips by extraction, and *1,560,448* covers the extracted chips ready for pulping.—A. P.-C.

Manufacture of Cellulose by Chlorination of Cellulosic Materials. A. R. deVains. U. S. pat. 1,556,497, Oct. 6, 1925. In neutralizing the acids set free by the chlorination of ligno- and pecto-cellulose or similar cellulosic materials and dissolving out the chlorinated derivatives, an alkaline-earth metal compound, such as slaked lime or calcium carbonate, is used for the neutralization and an alkaline compound, such as caustic soda, ammonia water or soda ash, for dissolving the chlorinated derivatives.—A. P.-C.

Production of Halfstuff and Cellulose from Vegetable Fibers. R. Runkel. U. S. pat. 1,557,338, Oct. 13, 1925. Vegetable fibrous materials of various kinds, including peat or wood chips, are treated with chlorine and alkalies, such as soda solution, simultaneously, and, with repeated additions of alkali, the obtainment of a pure white cellulosic material is possible.—A. P.-C.

Kraft Pulp and Kraft Paper. O. Heijne. Svensk Pappers-Tid. 29, 32-35 (1926). Descriptive.—C. J. W.

Power and Fuel Requirements in the Paper and Pulp Industry. A. Harlin. Svensk Pappers-Tid. 29, 9-13 (1926). Cellulose plants used (1924) 500 kg. coal per ton sulphite and 800 kg. per ton of sulphate pulp, based on dry, unbleached pulp. These figures are higher than Sundblad's ideal figures for 1922. Sulphite alcohol required 2.7 kg. coal per kg. 100% alcohol. The power required for dry unbleached pulp was 300 kw. hr. per ton of sulphite and 340 for sulphate pulp. Wet pulp required 650 kw. hr. per ton.—C. J. W.

TECHNICAL SECTION, PAGE 102

Fuel Requirements of the Sulphate Pulp Industry. G. Sundblad and A. Harlin. Svensk Pappers-Tid. 29, 61-62 (1926). Sundblad contends that the data of Harlin (preceding abstract) were based on 5 old-fashioned sulphate plants in a single district. Harlin presents new and more complete data to show that his former figures hold for 26 sulphate plants in Sweden.—C. J. W.

Process for Converting Fibrous Plant Materials to Textile Fibers by Means of a Mixed Chemical and Mechanical Treatment. M. Postiglione. Ger. pat. 426,800.. Papierfabr. 24, 261 (Apr. 25, 1926). Raw fibrous materials are treated at 100° C. in a bath containing 0.2% sodium bicarbonate and 0.2% neutral calcium carbonate; then cooled, crushed, and given a second treatment at 100° C. with a solution containing 1.2% sodium bicarbonate and 0.8% calcium carbonate. The mass is finally crushed.—J. L. P.

New Cooking Process for the Production of Pulp From Straw. J. D. Rue and W. Monsson. Papierfabr. 24, 169-172 (Mar. 21, 1926). Translation from Paper Trade J. 81, No. 15, 52-53; No. 20, 49 (1925).—J. L. P.

Kraft Paper. A. St. Klein. Zellstoff U. Papier 6, 114-118 (Mar., 1926). A summarizing description of a modern paper mill for the manufacture of kraft paper. A bibliography of 10 references is appended.—J. L. P.

Black Liquor

Waste Liquor Evaporation. Von Lassberg. Papierfabr. 24, 58-61 (Jan. 24, 1926). A review of different types of apparatus for evaporating waste liquors is given. The Brueden condenser evaporator is described.—J. L. P.

Recovering Waste Pulp Liquors. G. Mosebach. U. S. pat. 1,567,668, Dec. 29, 1925. Straw is added to the liquor and heated with stirring to about 70° C. The liquor is pressed out, and the compressed material is stirred with hot water at about 70° C. The hot water, containing about 10% of the liquor used, is pressed out and reused in the preparation of fresh liquor.—A. P.-C.

Process of Reducing Sulphates. A. H. White assignor to J. E. Alexander and E. G. Goodcell. U. S. pat. 1,565,300, Dec. 15, 1925. Salts such as sodium sulphate or other sulphates are heated with charcoal or other carbonaceous material and a metal oxide such as lime capable of reacting with carbon dioxide to form a carbonate with evolution of heat at the temperature at which the reduction is carried out and in sufficient quantity to form carbonate with the principal part of the carbon dioxide evolved in the reduction. The temperature of heating is above 300° C. but below the temperature at which the carbonate formed dissociates completely (preferably about 600 to 900° C. with sodium sulphate).—A. P.-C.

Production of Resin From Pulp Mill Black Liquor. F. E. Greenwood, assignor to Pine Waste Products, Inc. U. S. pat. 1,560,420, Nov. 3, 1925. Resinous components of black liquor are treated with a solvent or emulsifying liquid, such as gasoline or naphtha, and an acid such as sulphuric acid is added which will liberate resinous substances so that they may be taken up by the solvent. A second solvent, immiscible with the first solvent, for instance, ethyl alcohol or methanol, is used for selective separation of the rosin from the solution in which it is first obtained.—A. P.-C.

Production of Organic Acids From Soda Black Liquor. P. Deriveau, E. de Fersen, F. Fieschi, E. Lancesseur, A. Potel and P. Watel. Fr. pat. 563,747, June 21, 1922. The black liquor is heated in closed vessels with oxygen or gases containing it, in the presence or absence of catalysts. The oxygen preferably contains a sufficient quantity of steam to prevent the liquor from drying. Suitable catalysts include platinum and similar metals; chromium, copper, cobalt, manganese, aluminum and nickel; oxides of these metals or of iron; aluminum, zinc and phosphorus carbides; metal chlorides and bromides; and erium, manganese, and lead salts. The catalysts may be used in their usual form or in colloidal solution, or may be deposited upon non-reacting material, such as kieselguhr, asbestos, pumice stone and coke. The products include sodium formate, acetate, and oxalate.—A. P.-C.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

Tracing That Average 28% Loss

Hoover Says It Is Management's Fault And He Is Right

By C. U. Carpenter, President, Elite Machine Company

Your shop and mine, the average American factory, is inefficient. Secretary Hoover and his band of real experts tell us that the loss and waste will average 28 per cent and run as high as 56 per cent. They tell us all about it in that invaluable book, "Waste in Industry".

It's a personal loss; it's taking hard earned dollars away from you and me, dollars that ought to be reposing in the bank to our credit. It's not one of those wastes that affect the other fellow; that leads us to say, "Oh, well, that is too bad", and go away paying no further attention to it. It's a definite loss that affects our own business. It is the biggest waste in America, in the very home of supposed efficiency.

We cannot blame this condition upon the workmen, or the equipment, or any other one of a dozen things that we are fond of blaming our own inefficiencies upon. Herbert Hoover rightly points to us, the managers of enterprises large and small.

See Hoover's book! If you haven't done it yet—and you probably haven't—send for "Waste in Industry" and make it your production bible. Read it yourself. Don't say that you haven't the time and delegate it to someone else. You are the captain of your business craft and you do not want to be sitting in your cabin "in conference", or at some other spot "building up your health" while your ship is leaking at every seam, the pumps are not working and the steersman is cross-eyed and doesn't know where he is taking you. Davy Jones' locker may prove to be your destination unless you keep up to date in these vastly progressive days.

Where Your Profits Go

When you are operating under a loss and waste of 28 per cent your anticipated profits are simply going down the sinkhole of production inefficiency. What are you going to do about it?

Don't get the idea that your factory is perfect, because the floors are clean, the surroundings are pleasant, your men are earning good wages, and you are "giving your men so much welfare work". The outward conditions may be impressive but there may be hidden forces at work that nullify your efforts. The old, truthful "Balance Sheet" may be getting ready to tell you a real story of inefficiency.

Our troubles are due to the fact, that, after getting up all kinds of plans, systems and methods to promote and operate our business, we have overlooked the most important, the most vital of all namely: The handling and developing of our workmen. When we get up into the front office chairs, we somehow, are prone to look upon the plant operatives as little gears in our chain of production, as mechanical parts of our production mechanism.

Now let's see what Hoover says. Every word of his statements are pregnant with meaning, are backed up by experience. "The proper relationship between management and labor, such as exists in the *most productive plants investigated*, is more than ever a controlling factor", and, "developing the latent productivity of the workers and the provision of fair incentives for those who 'make good' play a large part in eliminating waste in the best establishments." "It is evident that management of labor must be elevated to a higher plane."

The proof of the pudding.—Actual results tell the story. Mr. Hoover tells us of the improvement in two plants where an honest effort to improve production conditions was rewarded with remarkable improvements.

One plant shows the increase per employee from 571 to 1,325 units per month. Here the evident waste was 57 per cent.

In another plant the eyes of the officials who believed their plant was exceptionally efficient were opened over the increases made. The plant was modern, had a good labor market, and the management considered that they were doing very well when they were producing 20,000 units per week with 1,175 employees, or an average of 18.7 units per week per employee. They installed, improved methods. As a result the output was raised from 20,000 to 34,000 units weekly, while the number of employees was *reduced* from 1,175 to 800. The weekly output per man had jumped from 18.7 to 42.5, *an improvement of 121 per cent.* No additional equipment had been added. And the management looks for another material improvement. Certainly in these cases the possible profits were locked up in production inefficiency. And he assures us that they found numerous other cases. In my own experience I have found shop after shop in a similar condition. The opportunities for great improvement appear endless.

Now, think over carefully this observation; "underlying any system there must be recognition of the fact that the actual work is done by human beings and that, to disregard human nature, or strive against it is as much a hindrance to high efficiency as to strive against or disregard any well-established physical law."

There isn't a function of life in which human nature does not play it's part and nowhere does it operate with more force than within the four walls of your factory and mine. This must

necessarily be true, for here is where a workman gains his livelihood. Here is where he spends one-half of his waking hours, here is where he gains enough to make his life one of comparative comfort and pleasure, or gets so little that it becomes a living hell of debt. Here is where he gets a chance to show his worth, and to climb the ladder of promotion, or is obliged to stand the injustice of an arbitrary superior and see taken away from him by unfair means those opportunities for advancement, that every man in entitled to.

In order to get the right viewpoint of these discussions, let us imagine our ownselves as solitary units, away down in the shop working at machine or bench. Let us see what our own viewpoints would be; just what influences would cause us to do our level best, and what ones would so dishearten us, that we would gradually sink to a level of inefficiency and, filled by a spirit of "get-even-ness," do as little as we could "get by" with.

Elements of Management

What are the elements of management that will lead the operator to give us his best efforts, his co-operation, to get out his best rate of production?

Good wages come first to mind, but with this must be coupled methods which will prevent the reduction of wage prices when the workman exceeds a certain output and earnings.

A man wants to feel that, so long as he is getting out the proper production in quantity and quality, and commits no breach of discipline, his job is safe from arbitrary and unjust discharge. He feels too that, if he is one of your best producers, there should be no discrimination against him in the apportioning of jobs.

A man longs for a real honest chance for promotion—promotion based upon merit. He resents bitterly the favoritism, by which the chances for advancement are often governed. He knows well enough, that he has to get his foot upon that lowest rung of the ladder of promotion, or he will never advance. He will never get higher, if he cannot make that first step. To be robbed of this chance by some distinctly inferior workman, when he is the best man on the job, is the most disheartening experience, that can come to him. Promotion of the inferior man because of rank favoritism is the most disorganizing factor, the biggest inefficiency breeder, in an organization.

How About You and Me

What would you and I say, were we down there working away and the opening that we longed for, and were entitled to on merit, was passed to a bad actor, an inefficient worker, because he was a relative of some superior. Probably what your own men say, "Oh—what's the use?" And then we would settle down to give the concern just as little as we "could get by with."

Now, of course, you will say "Why this isn't our policy." True, but if you could only see "our policy," by the time it reaches the operator, you wouldn't recognize it, so warped and twisted has it been by the tendencies and intentions of the men, who have the real power in the shop.

In almost every shop there is lack of co-ordination between the executives and the men who govern the shop. The foremen often do not know what your policies are, what you will and will not stand for. Therefore, each man jack of them will govern his department according to his own sweet will. In one department the men will be handled fairly. In the next, one man will be discharged without proper cause, job apportioned unfairly, promotion will be governed by favoritism, not by merit and record of output, by the installing of relatives in the choice positions regardless of their poor workmanship.

This is not strange. Probably you have never told these men individually, and in a group, what your policies, in regard to these vital points of managements, are. Be frank with yourself. Have you any policies? If so, are they based upon methods, that carry the universal appeal of *Justice?*

Think This Problem All the Way Through

Before we start discussing these subjects in detail, allow me to urge you to think this problem straight through. If you do, you will agree with Secretary Hoover, that "Labor is the major factor" in your business; that the human side of your situation, is the foundation of your organization; that, from the purely selfish standpoint alone, if you want to make the most money possible, you have got to get your workers on their toes, and the only way to do it is to make effective plans and methods, that will appeal to this human side.

When you have your plans laid, then transmit them to your governing force—your superintendents and foremen—with all the force you have at your command. Your good men will welcome them. The ones, who want to run their departments along the old lines, will find that they will have to fall in line or move out.

Labor Turnover

One of our worst "loss breeders," is our labor turnover. Mr. Hoover emphasizes this point. The average labor turnover in the American shops is 160 per cent. We were accustomed to a heavy one during the war but that this should exist today is astonishing.

To the average executive the term "labor turnover" doesn't register very heavily. The term fails to hit him hard enough. He simply says, with a yawn, "Oh! my employment department and superintendent attend to all of that you know. Of course we can't prevent the men leaving, but then we have no trouble in getting plenty of good workmen."

Let's see if this is a matter to yawn over. Every new worker will cost you from $50 to $200 as has been carefully calculated, an average, say, of $100. And this isn't the total cost by any means. If your factory is organized, as it should be, it is geared up to produce in a steady stream. There is a large loss, if this flow of parts is continually interrupted by skilled men leaving their jobs and green ones being substituted. Do not imagine, that the new worker can take up the work, where the old men left off and go ahead without any interruption. It requires days, and sometimes weeks, for the new worker to acquire the skill and rapidity of the old workman.

Ford taught us the great value of securing a steady stream of production moving without interruption. It's the biggest concept in modern manufacture. Nothing destroys its effectiveness so much, as the hidden interruption here, the job shut down there, the slowing up of production perhaps in a dozen places at one time.

When you think of the $100 cost per man for each new one employed—employing yearly of 160 men for each 100 men at work—and then add the losses arising, from the continual interruption to steady production, due to the breaking in of new men, we can well understand why, Mr. Hoover places especial emphasis upon labor turnover as one of the chief losses, that make up that 28 per cent total.

Man after man will quit a shop without anyone knowing why, except the foreman, and often even he does not know the reason. Without question this is due to deep-seated dissatisfaction with the treatment they receive. We once made an investigation, by visiting the homes of these men and getting them to talk frankly. The explanations were certainly illuminating.

"No opportunity"; "no chance to get ahead"; "no recognition of a good workman"; "foremen drive us like cattle"; "nobody cares a damn for you"; "too much fighting and quarreling"; "foreman will discharge a good man to make way for a relative, who is a rotten worker"; "promotions are given to friends or relatives instead of to the good workers"; "feel like I was in prison".

There you are, "old human nature" just sticking out. Here were no mere cogs in the gear; they were human beings longing for recognition as human beings.

The National Cash Register Company stands out today as one of the greatest (perhaps the greatest) organization built in modern business. This is due solely to the work of John H. Patterson, in interesting his men from janitor to manager in the company and it's progress. Did he act as though he considered his workers as mere mechanical parts of his production machine? I should say not! He did everything possible to make them feel that they were real parts of the organization, that their work, no matter how humble, was an important factor in the company's progress.

Patterson's Methods

He placed completed machines in every part of the shop so that the workers could see how the work they were doing, functioned in the completed machine; also, so that each could study the interrelationship of the parts and so fit himself for a better job. He started the suggestion system; had meetings, at which were discussed the problem of sales and methods of getting orders before the factory employees. He told them of any troubles they might be having. Every man knew how orders stood, who were the best salesmen, how the company sold its goods. He started to interest the wives and gave them excellent schooling in millinery, dressmaking and cooking. He started the boys making excellent gardens. He got the entire force so wound up over the company, that they couldn't think or talk about anything but *their* company affairs, and what the old man would do next. The wives joined in the chorus because he had interested them. Such co-operation was developed that it was simply irresistible. It wiped out all opposition. The mass effect of all this interest and enthusiasm was tremendous. Today the organization stands a model for every manufacturer because of this play upon the human nature side of every man and woman in the company's employ.

Are we going to learn anything from the methods of this real master of American business, or are we, like ostriches, going to stick our heads in the sand and refuse to see or learn?

Now, let us understand that in presenting the arguments that I do, and the very simple methods that control such a situation, and turn low production into high production, I am indulging in no pretty, untried theory. The methods recommended have been tried in shops employing from 120 to 8,600 operators, and in each case the results were eminently successful. I will later describe the methods, as actually developed in a factory with over 8,000 employees.

In order to clarify the entire situation properly, I will present as complete an analysis of the underlying causes for the worker's discontent with the company, and the reason for the company's dissatisfaction with its employees, as the limits of this article will permit. Much of it has been discussed before but this display of hidden forces within the shop, that cause these great losses, will not be complete without such an analysis. Perhaps I may be able to throw some new light upon these old subjects.

Labor Is a Major Factor

Even the most stubborn minded of the old timers must keep in mind Mr. Hoover's statement that LABOR IS THE MAJOR FACTOR IN PRODUCTION. And remember, this day and generation is no time to shut our eyes to cold facts. The pressure, that comes from the rapid and correct development of new ideas, is too severe to let any of us "go to sleep on the job". Never has there been a time, when the pressure of development of new products and new production methods, has been so high. The fellow, that today is at the head of the business procession, may be a trailer within a short space of time, if he doesn't step along and keep pace with the procession of new development.

Elements of True Organization Development

Let us repeat them, they are:

1—Fair wages and a fair method of applying them. No arbitrary cutting of piece work prices or other methods of applying wage rates. A fair method of apportioning the best jobs.

2—Freedom from arbitrary and unjust discharge.

3—A just method of making promotions. A system where the "best man does win." No favoritism.

4—Development of relations with employees based upon common sense and the recognition of the "human nature" element in your association with them.

5—Clean, sanitary surroundings with means of protection against accidents. The development of services, such as restaurants, as the company can afford.

High wages are distinctly a factor in broadening general markets. Purchasers are increased in number and the general improvement in business reacts favorably upon every business. If high wages also bring about a corresponding increase in production, the company will experience a substantial gain through the added gain in overhead. As overhead does not increase in the same proportion as direct labor, where an increase in production occurs, the total cost per part covering both direct labor and overhead charges is decreased.

A large sized Senegambian, however, is concealed in the mazes of the production processes, and he nullifies many of the rosy claims of the inexperienced theorist. We read many a screed on the question of the evil results arising from ruthless cutting of piece work prices or other wage methods. Nothing is more discouraging and, in fact, disorganizing, than for the workmen to increase output and earnings upon their jobs, and then have their piece work rates arbitarily reduced, so that, they find themselves working perhaps 30 per cent harder than before and not making any more money. Were you and I on the job, and had we increased our production through study of our work, and then got a cut in rates, that would leave us back where we started from, so far as earnings are concerned, but having to work much harder in order to earn what we did before, wouldn't we at once get sore, limit our outputs, and possibly do all the devilment we could to get even? Human nature again! Where this condition exists, the men always band together to limit outputs and conceal from the management the possibility of rate reductions. This practice of cutting rates, coupled with unfair promotion practices, always results in a resentful unharmonious working force.

Learn True Conditions Before You Talk

The president of a company, who usually unaware of these conditions, will often make himself ridiculous by orating to the men about "the best man wins," and "work hard and you'll come out on top" and on other similar subjects. If he could hear the "cussing," and picture the disgust engendered, he would open his eyes.

In the midst of this oratory about the iniquity of cutting wage rates, we are overlooking the other side of this serious question. Notwithstanding the statements, that the chief object of a business is to give service to the public, the fact is, that the average business man has personal profit as his stimulus. It's the ear of corn in front of the horse's nose, that makes him trot, and it's the possibility of personal profit, that makes a fellow get up and hump himself to make a success of a business. Service comes because he finds that it pays him, because a competitior makes him give it, and last because it's right.

It's the poor devil, who is struggling like the Old Nick, to make a success of his business, to pay his bills and meet his payrolls that realizes this. And don't forget, that the reports of the Trade Commissions and other statistical bodies, tell us, that where there is one that is travelling the high road to success, there are ten, who are off this main road, burdened with worry over how to make both ends meet and perhaps get a little lap-over of profit.

Now Mr. Manager, you're the one to be interested in hunting out the hidden lair of that 28 per cent loss. There is where your longed-for profits are disappearing. There are no Aladdin lamps

to rub these days—no djins to wipe away your troubles. You've got to do the job by yourself. Let's see whether or not Secretary Hoover can help us.

Where the Losses Are

A large number of concerns are crippled by rates of pay, (piece work or otherwise), that are too high. This is due to the fact, that these rates, that are the vital underlying factors in a company's success, have been set by the guesswork of the foremen, instead of by a method that ensures an approximation of accuracy.

Now, when the executives of a company, who have spent perhaps years worrying over conditions and trying to make both ends meet, once find, that their workmen have been getting out only about 60 per cent of what they could do without undue effort, and that the other 40 per cent of the payrolls, that they have struggled to pay has been nothing but waste, they are not in a frame of mind to adopt soft methods in handling the situation. Yet the entire blame for this situation rests upon the shoulders of the management. No one but they, are responsible for their failure properly to attend to this vital function of their business.

This is old stuff but it's good. Certainly any man, who gives this real thought, will say that the setting of prices or rates of pay is one of the most important functions of shop management. These rates affect the very vitals of your business. If made incorrectly, your costs may be entirely too high. Not only is your money going down the sinkhole of inefficiency, but your selling prices and even your method and cost of selling, will be affected thereby. High prices will force you to a costly selling system; low prices will enable you to adopt a much less costly plan. My point is that "too high costs" may affect your entire business structure.

Foreman's Guesswork

In the average shop the setting of prices is left up to the foreman. These men, however able in other directions, are not qualified to perform this work. They can, perhaps, make as good a guess as anyone, but this is no place for guesswork.

In one of the big, most modern shops of America, we found that prices, that had been set by the foreman, and had been effective for years, were, in the great majority of cases entirely too high. In one department there were 286 jobs, on which the piece work prices should have been 40 per cent of what they were. The workmen could have produced without undue effort two and one-half times what they were producing. In another department with 125 workmen, the output was more than doubled with the same equipment. In another large, up-to-date modern shop with over 6,000 employees, the output was doubled. These records compare with Mr. Hoover's results of increases in production of over 125 per cent and in another, an increase of over 120 per cent with the same equipment and the same or fewer number of employees.

A Prize Case

This factory with 4,000 employees is supposed to be one of the efficient shops of America. It's buildings and equipment are modern. On the surface it seems a model of efficiency.

A few weeks ago, I was discussing the shop practice of cutting rates with a friend. He said, "Mr. Carpenter, only last week I had an illustration of the foolishness of this practice. My oldest daughter Lucy came home crying bitterly. When I asked what the trouble was, she said, 'Oh! I wound too many armatures today by mistake.' By mistake, what do you mean? 'Well, Dad, you see the company cuts our piece work prices whenever we earn more than 40 cents per hour, so, of course, we don't dare produce any more than enough to earn this. If we do, they cut the price, and the first thing we know, we'll be working much harder and not earning any more.' Yes; but that mistake is not enough to cry over. 'But think of what the other girls will do and say to me. Why when the cut comes, a lot of them will lose their jobs and the rest will have to work harder, and they'll blame me. I tried to hide this on my time ticket and give the company the extra pieces for nothing but the inspector caught me. He said he was mighty sorry but he had to report it.' Well, I asked, how fast can you produce? Lucy said, 'Oh, we could all easily finish our work by half past three in the afternoon but we don't dare, so we have to loaf that much of our time'."

There you are Mr. Efficient Manager. A loss of 700 hours or at least $280 every day, $84,000 every year, in that one department. As this condition exists in every department you can picture the losses. All due to the system of letting the foremen set prices by guesswork.

Right There Is Their Little Old 26 Per Cent

Only the experienced engineer knows how prevalent this condition is.

The correct manner, in which to set wage rates, has been described again and again in this and other prominent journals and the limits of this article prevent me from covering it again. It requires careful time studies, which determine in a scientific and, at the same time, practical manner the rates of production per hour, that should be secured *as a standard* from each job, whether it be at a machine or bench. It can be done simply and at small expense, if done in the manner advised by experts.

Standard Hourly Rates of Production

The writer cannot emphasize strongly enough the great importance of securing and establishing properly determined production rates of each job. These comprise the foundation stones in your organization structure. With incorrectly established rates, there will be continuous trouble and discontent arising, and your factory cannot operate upon an economical basis because, sooner or later, cutting of wage rates will occur and then will follow a miserable cycle of troubles, including a limitation of output and a never ending struggle between men and company.

On the other hand, in shops like those of the General Electric Company, where prices are properly determined and are guaranteed against cuts, the men can make as much as their ability will permit. Any man, with the sense that nature gave him, can see the difference. You may argue and orate to your heart's content over any situation, but always remember, that you cannot avoid the natural impulses of human nature and that every one of your employees is as full of it, as you are.

Arbitrary Discharge Unjust

A worker wants to feel, that so long as his work is up to the standard in quality and quantity and he commits no breach of discipline, his job is safe. Arbitrary discharge of workmen is unjust and its practice undermines any sense of loyalty that a man might have for his company. Not only is the discharged man a distinct loss but the balance of the men resent this fiercely and they work with the disturbing thought that their turn may come next. Certainly this destructive practice must be controlled in the interests of all concerned.

Next to wages comes a fair chance for promotion as the important thing in the worker's mind. We must always remember that there is no live worker that hasn't the spark of ambition within him. If he doesn't seem to have any it's because it's been killed by the shop practice that I have mentioned. It's the spark to cultivate. It's the greatest incentive to greater effort that a workman can have.

(To Be Continued)

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To Hold Safety Conference at Appleton

APPLETON, Wis., September 14, 1926.—M. G. Hoyman, safety director of Kimberly-Clark Company, Neenah, Wis., will have charge of the luncheon for the paper and pulp group at the Fox River Valley Safety Conference, to be conducted at Appleton on Wednesday, September 29, according to plans which have been made by the general committee. Mr. Hoyman will arrange the program and probably act as chairman of the session.

This will be the largest safety conference ever conducted by the industries of the valley, with an extensive program lasting for the morning, afternoon and evening. Paper mill executives taking part in the preparations are: W. F. Ashe, Thilmany Pulp and Paper Company, Kaukauna, Wis., general chairman; W. H. Falatick, Wisconsin Tissue Mill division of Thilmany Company, Appleton; H. G. Krueger, Riverside Fibre and Paper Company, Appleton; W. J. Peacock, Northern Paper Mills, Green Bay, Wis.; M. G. Hooyman, Neenah, Wis. Elmer H. Jennings of the Thilmany Company, will preside at the evening session.

Chicago Salesmen Conduct Membership Drive

Under the direction of H. J. Miner, Chicago representative of the membership committee of the Salesmen's Association of the Paper Industry, a vigorous and successful membership drive is being carried on in that territory. At least one new member a week was secured during August, a splendid record for a vacation month.

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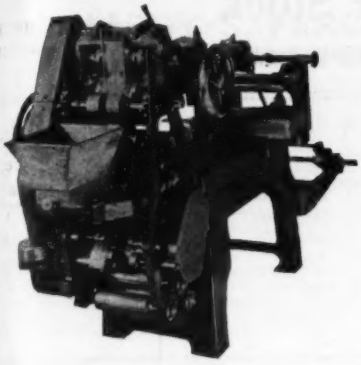

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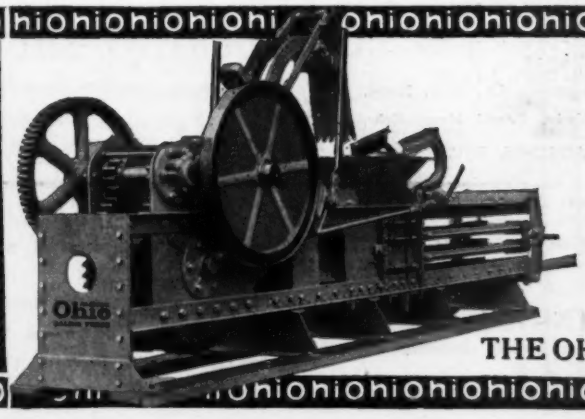

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Wall paper .....165 rolls, 4 bls., 21 cs.
Paper hangings .....23 bls., 6 cs.
Painted paper .....1 cs.
News print .....250 rolls
Pergamyn paper .....42 cs.
Printing paper .....30 rolls, 73 cs.
Blue print paper .....14 cs.
Wrapping paper .....44 bls., 15 cs.
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Baryta coated paper .....79 cs.
Surface coated paper .....159 cs.
Photo paper .....5 cs.
Filter paper .....114 bls., 14 cs.
Drawing paper .....57 cs.
Colored paper .....12 cs.
Decalcomania paper .....12 cs.
Writing paper .....51 cs.
Envelopes .....4 cs.
Aluminum paper .....4 cs.
Trunk paper .....7 cs.
Stencil paper .....26 cs.
Tissue paper .....42 cs.
Gummed paper .....3 cs.
Paper tubes .....6 cs.
Miscellaneous paper ....901 rolls, 119 bls., 245 cs.

CIGARETTE PAPER

Standard Products Corp., Waukegan, Havre, 200 cs.
Standard Products Corp., Indep. Hall, Havre, 80 cs.
British American Tobacco Co., Paris, Havre, 1 cs.

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Keller-Dorian Paper Co., Mauretania, Southampton, 18 cs.
F. J. Emmerich, Albert Ballin, Hamburg, 1 cs., 1 bls.
H. Reeve Angel & Co., Inc., Albert Ballin, Hamburg, 165 rolls.
Portenoy Co., Aquitania, Southampton, 1 cs.
A. C. Dodman, Jr., Inc., Aquitania, Southampton, 3 bls.
Thomas & Pierson, Aquitania, Southampton, 1 cs.

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A. C. Dodman, Jr., Inc., Cedric, Liverpool, 3 bls.
Whiting & Patterson Co., Inc., Olympic, Southampton, 3 cs.

PAINTED PAPER

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H. Reeve Angel & Co., Inc., A. Ballin, Hamburg, 250 rolls.

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F. C. Strype, A. Ballin, Hamburg, 42 cs.

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B. F. Drakenfeld & Co., Carinthia, Liverpool, 37 cs.
International Forwarding Co., Pennland, Antwerp, 10 cs.
J. Henschel & Co., A. Ballin, Hamburg, 14 cs.
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Whiting & Patterson Co., A. Ballin, Hamburg, 1 cs.

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Lunham & Reeve, Tuscania, London, 2 cs.
J. Manheimer, Olympic, Southampton, 109 bls.

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J. D. Smith & Co., Aquitania, Southampton, 1 cs.
American Express Co., Waukegan, Havre, 7 cs.
Abraham & Strauss, Waukegan, Havre, 1 cs.
L. Bamberger & Co., Waukegan, Havre, 4 cs.
Stern Bros., Suffren, Havre, 1 cs.
Japan Paper Co., Suffren, Havre, 18 cs.
Guibout freres, Paris, Havre, 2 cs.
F. C. Strype, Paris, Havre, 8 cs.
W. J. Byrnes, Indep. Hall, Havre, 3 cs.
L. Bamberger & Co., Indep. Hall, Havre, 1 cs.
Younker Bros., Indep. Hall, Havre, 1 cs.
Kaufmans, Indep. Hall, Havre, 2 cs.

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H. Reeve Angel & Co., Inc., Minnewaska, London, 4 cs.

ALUMINUM PAPER

H. D. Catty & Co., Pennland, Antwerp, 4 cs.

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P. H. Petry & Co., A. Ballin, Hamburg, 7 cs.

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Arlac Dry Stencil Co., A. Ballin, Hamburg, 26 cs.

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G. W. Sheldon & Co., Cedric, Liverpool, 2 cs.
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GUMMED PAPER

Davies, Turner & Co., Aquitania, Southampton, 3 cs.

PAPER TUBES

H. de Maguinn, Paris, Havre, 6 cs.

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Perry, Ryer & Co., Cameronia, Glasgow, 143 cs.
Keller-Dorian Paper Co., A. Ballin, Hamburg, 1 bls.
W. Hartmann & Co., A. Ballin, Hamburg, 5 bls.
The Borregaard Co., Inc., Gripsholm, Gothenburg, 901 rolls, 16 bls.
E. H. Sergeant & Co., Gripsholm, Gothenburg, 3 cs.
D. S. Walton & Co., Fred. VIII, Copenhagen, 96 bls.
Japan Paper Co., Suffren, Havre, 38 cs.
H. Maillard, Suffren, Havre, 1 cs.
H. Glass, Suffren, Havre, 12 cs.
A. Morton & Co., Suffren, Havre, 1 cs.
F. J. Emmerich, Tuscania, London, 1 bls.
Hammel, Riglander & Co., Paris, Havre, 2 cs.
Hudson Forwarding Co., Paris, Havre, 6 cs.
H. Glass, Paris, Havre, 8 cs.
Cheramy, Inc., Paris, Havre, 1 cs.
Judson Freight Forwarding Co., Paris, Havre, 3 cs.
Whitfield Paper Works, Bengal Maru, Kobe, 26 cs.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Stuttgart, Bremen, 81 bls. rags.
Mayer Bros., Stuttgart, Bremen, 40 bls. rags.
Chase National Bank, Stuttgart, Bremen, 270 bls. rags.
Robert Blank, Stuttgart, Bremen, 5 bls. rags.
Central National Bank, Stuttgart, Bremen, 125 bls. rags.
Chemical National Bank, Stuttgart, Bremen, 16 bls. rags.
Bulkley, Dunton & Co., Breedyk, Rotterdam, 84 bls. rags.
Carolina Bagging Co., Breedyk, Rotterdam, 89 bls. bagging.
A. W. Fenton, Inc., S. Ventana, Bremen, 53 bls. rags.
G. P. Lotterhand, Waukegan, Havre, 4 bls. rags.
A. W. Fenton, Inc., Waukegan, Havre, 39 bls. rags.
Sherwin-Sheppard Co., Waukegan, Havre, 2 bls. rags.
J. B. Woodruff & Co., Waukegan, Havre, 21 bls. rags.
V. Galaup, Waukegan, Havre, 9 bls. rags.
Atterbury Bros., Inc., Waukegan, Havre, 42 bls. rags.
Bulkley, Dunton & Co., Waukegan, Havre, 205 bls. bagging.
Bulkley, Dunton & Co., West Arrow, Antwerp, 63 bls. rags.
S. Silberman & Co., West Arrow, Antwerp, 258 bls. rags.
Stone Bros. Co., Inc., West Arrow, Antwerp, 138 bls. rags.
Chase National Bank, West Arrow, Antwerp, 211 bls. rags.
Royal Manfg. Co., West Arrow, Antwerp, 52 bls. thread waste, 8 bls. rags.
S. Silberman & Co., Cameronia, Glasgow, 126 bls. rags.
Brown Bros. & Co., Cameronia, Glasgow, 32 bls. rags.
Equitable Trust Co., Pennland, Antwerp, 52 bls. thread waste.
Castle & Overton, Inc., Pennland, Antwerp, 72 bls. rags.
Whaling Waste Products Co., A. Ballin, Hamburg, 75 bls. jute waste.
E. J. Keller Co., Inc., A. Ballin, Hamburg, 73 bls. bagging.
S. Birkenstein & Sons, A. Ballin, Hamburg, 84 bls. rags.
Mutnick Bros., Carinthia, Liverpool, 43 bls. rags.
Anglo-South American Trust Co., Fred. VIII, Copenhagen, 500 bls. bagging.
Equitable Trust Co., Fred. VIII, Copenhagen, 400 bls. rags.
Atlas Waste Manfg. Co., Havana Maru, Osaka, 100 bls. rags.
National City Bank, New York City, Bristol, 120 bls. rags.
Brown Bros. & Co., New York City, Bristol, 76 bls. rags.
Chase National Bank, Corson, Leghorn, 119 bls. rags.
A. W. Fenton, Inc., Corson, Leghorn, 5 bls. rags.
The Stone Bros. Co., Inc., Wytheville, Rotterdam, 218 bls. rags.
Castle & Overton, Inc., Indep. Hall, Havre, 91 bls. bagging.
Salomon Bros. & Co., Indep. Hall, Havre, 183 bls. flax waste.
V. Galaup, Indep. Hall, Havre, 24 bls. rags.
W. Steck & Co., Indep. Hall, Havre, 119 bls. rags.
D. M. Hicks, Inc., Indep. Hall, Havre, 63 bls. rags.
Gerofsky Bros., Inc., Indep. Hall, Havre, 50 bls. rags.
S. Silberman & Co., Indep. Hall, Havre, 62 bls. rags.
J. B. Woodruff, Indep. Hall, Havre, 21 bls. rags.
E. J. Keller Co., Inc., Lapland, Antwerp, 309 bls. flax waste.
E. J. Keller Co., Inc., Sachsenwald, Hamburg, 183 bls. rag pulp.
E. J. Keller Co., Inc., Livenza, Oran, 162 bls. rags.
E. J. Keller Co., Inc., Ohioan, Kobe, 400 bls. rags.
E. J. Keller Co., Inc., Carenco, Oran, 155 bls. rags.
E. J. Keller Co., Inc., Carenco, Casablanca, 200 bls. rags.

OLD ROPE

Brown Bros. & Co., Gripsholm, Gothenburg, 43 coils.
Brown Bros. & Co., N. Y. City, Bristol, 87 coils.
W. Schall & Co., Indep. Hall, Havre, 151 coils.
D. I. Murphy, Fasterling, Manchester, 20 coils.

MANILA ROPE

Ellermans' Wilson Line, Minnewaska, London, 52 coils.
National City Bank, Cedric, Liverpool, 61 pkgs.

SUNN ROPE

De Grauw, Aymar & Co., Pennland, Antwerp, 80 coils.

WOOD PULP

Bulkley, Dunton & Co., Stuttgart, Bremen, 135 bls. wood pulp.
Castle & Overton, Inc., S. Ventana, Bremen, 367 bls. wood pulp.
Tidewater Papermills Co., Bornholm, Chatham,

(*Continued on page 68*)

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Imports of Paper and Paper Stock

(*Continued from page 66*)

7329 bls. wood pulp.
Parsons & Whittemore, Inc., Gripsholm, Gothenburg, 300 bls. sulphite.
Johanson, Wales & Sparre, Inc., Gripsholm, Gothenburg, 1168 bls. dry soda pulp.
Johanson, Wales & Sparre, Inc., Gripsholm, Gothenburg, 350 bls. sulphite.
E. M. Sergeant & Co., Gripsholm, Gothenburg, 255 bls. sulphite.
E. M. Sergeant & Co., Gripsholm, Gothenburg, 1196 bls. dry soda pulp.
Price & Pierce, Ltd., Gripsholm, Gothenburg, 700 bls. wet pulp.
Buck, Klaer & Co., Inc., Stavangerfjord, Oslo, 800 bls. kraft pulp.
Chemical National Bank, Stavangerfjord, Oslo, 264 bls. sulphite.
E. M. Sergeant & Co., Stavangerfjord, Oslo, 350 bls. sulphite.
D. M. Hicks, Inc., Stavangerfjord, Oslo, 160 bls. sulphite.
Castle & Overton, Inc., Wytheville, Rotterdam, 375 bls. wood pulp, 28 tons.

WOOD FLOUR

B. L. Soberski, Stavangerfjord, Frederickstad, 2250 bags.
Hansa Co., Wytheville, Rotterdam, 500 bags.

CASEIN

Kalbfleisch Corp., Castillian Prince, B. Aires, 334 bags, 20,040 kilos.
D. C. Andrews & Co., A. Ballin, Hamburg, 137 bags.
M. E. Clarendon & Co., West Keene, B. Aires, 417 bags, 25,020 kilos.
M. H. Grace & Co., West Keene, B. Aires, 423 bags, 25,380 kilos.
Casein Manfg. Co., West Keene, B. Aires, 667 bags, 88,204 kilos.
National City Bank, West Keene, B. Aires, 567 bags, 67,438 lbs.

CHINA CLAY

Central Union Trust Co., N. Y. City, Bristol, 100 casks, 50 tons.

PHILADELPHIA IMPORTS

WEEK ENDING SEPTEMBER 11, 1926

E. J. Keller Co., Inc., West Arrow, Antwerp, 57 bls. rags.
Castle & Overton, Inc., West Arrow, Antwerp, 207 bls. rags.
Bulkley, Dunton & Co., West Arrow, Antwerp, 53 bls. rags.
A. Hurst & Co., West Arrow, Antwerp, 44 bls. rags.
The Stone Bros. Co., Inc., West Arrow, Antwerp, 103 bls. bagging.
S. Birkenstein & Sons, West Arrow, Antwerp, 260 bls. rags.
Strupp & Co., Corson, Genoa, 47 bls. rags.
Castle & Overton, Inc., Corson, Marseilles, 121 bls. rags.
W. Schall & Co., Corson, Marseilles, 89 coils old rope.
Union National Bank, Corson, Marseilles, 113 bls. rags.
The Stone Bros. Co., Inc., Corson, Leghorn, 88 bls. rags.
D. I. Murphy, Corson, Leghorn, 36 bls. rags.
Union National Bank, Corson, Leghorn, 237 bls. rags.
Brown Bros. & Co., Corson, Naples, 32 bls. rags.
The Stone Bros. Co., Inc., Wytheville, Rotterdam, 92 bls. rags.
Castle & Overton, Inc., Wytheville, Rotterdam, 1140 bls. wood pulp.
Castle & Overton, Inc., Indep. Hall, Havre, 67 bls. rags.
D. I. Murphy, Indep. Hall, Havre, 66 bls. rags.
The Stone Bros. Co., Inc., Indep. Hall, Havre, 84 bls. rags.
Salomon Bros. & Co., Indep. Hall, Havre, 212 bls. rags.
Robert Blank, Lorain, Hamburg, 117 bls. rags.
E. J. Keller Co., Inc., Skaneland, Barcelona, 415 bls. rags.
E. J. Keller Co., Inc., Sommelsdyk, Rotterdam, 97 bls. rags.
E. J. Keller Co., Inc., Sommelsdyk, Amsterdam, 37 bls. rags.
E. J. Keller Co., Inc., Sangamon, Marseilles, 284 bls. rags.
Castle & Overton, Inc., Ulm, Germany, 4718 bls. wood pulp.
Castle & Overton, Inc., Ulm, Germany, 42 bls. rags.
Castle & Overton, Inc., Seattle Spirit, Hamburg, 54 bls. cottons.
Castle & Overton, Inc., No. Western Miller, England, 432 bls. rags.
Castle & Overton, Inc., No. Western Miller, England, 124 bls. old rope.
Castle & Overton, Inc., Naples Maru, Germany, 54 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING SEPTEMBER 11, 1926

Bulkley, Dunton & Co., Breedyk, Rotterdam, 203 bls. bagging.
E. J. Keller Co., Inc., Breedyk, Rotterdam, 300 bls. wood pulp.
Irving Bank-Columbia Trust Co., Breedyk, Rotterdam, 164 bls. rags.
Baltimore Trust Co., Breedyk, Rotterdam, 65 bls. rags.
National City Bank, Breedyk, Rotterdam, 176 bls. rags.
Congoleum Nairn Co., Waukegan, Havre, 105 bls. bagging.
Congoleum Nairn Co., Waukegan, Havre, 149 bls. rags.
S. Shapira, Waukegan, Havre, 143 bls. rags.
Castle & Overton, Inc., Waukegan, Havre, 211 bls. bagging.
National Bank of Commerce, Corson, Leghorn, 357 bls. rags.
Castle & Overton, Inc., Alda, Germany, 1000 bls. wood pulp.

CHARLESTON IMPORTS

WEEK ENDING SEPTEMBER 11, 1926

E. J. Keller Co., Inc., Magmeric, Antwerp, 225 bls. bagging.

BOSTON IMPORTS

WEEK ENDING SEPTEMBER 11, 1926

Brown Bros. & Co., S. F. Maru, Naples, 66 bls. bagging.
Brown Bros. & Co., S. F. Maru, Naples, 73 bls. rags.
G. W. Wheelwright Paper Co., Naperian, London, 174 bls. waste paper.
Baring Bros. & Co., Naperian, London, 124 bls. waste paper.
G. M. Graves & Co., Naperian, London, 61 bls. rags.
Crocker Burbank Co., Naperian, London, 561 bls. waste paper.
Adams Bag Co., Naperian, London, 55 bls. old rope.
1st National Bank of Boston, West Keene, B. Aires, 1334 bags casein, 80,040 kilos.
Robert Blank, Sommelsdyk, Rotterdam, 220 bls. rags.
E. J. Keller Co., Inc., West Campgaw, Hamburg, 109 bls. rags.
E. J. Keller Co., Inc., Westerner, Rotterdam, 154 bls. rags.
Castle & Overton, Inc., Ulm, Germany, 1647 bls. wood pulp.

NORFOLK IMPORTS

WEEK ENDING SEPTEMBER 11, 1926

Darmstadt, Scott & Courtney, Breedyk, Rotterdam, 131 bls. bagging.
New York Trust Co., Breedyk, Rotterdam, 91 bls. bagging.

NEW ORLEANS IMPORTS

WEEK ENDING SEPTEMBER 11, 1926

Castle & Overton, Inc., Meanticut, Antwerp, 46 bls. rags.
Castle & Overton, Inc., West Erral, France, 124 bls. rags.
Castle & Overton, Inc., Missouri, France, 121 bls. rags.
Castle & Overton, Inc., Coldbrook, France, 481 bls. rags.
Castle & Overton, Inc., Missouri, France, 38 bls. rags.

W. C. Ross Leaves Mid-States Gummed Paper Co.

CHICAGO, September 13, 1926.—Beginning September 20, W. C. Ross will no longer be actively connected with the Mid-States Gummed Paper Company, 2433-37 S. Robey Street. He will, however, retain some of his interests and remain on the Board of Directors and his services are available in an advisory capacity.

His brother, Herbert H. Ross, who has been W. C.'s assistant for five years and is thoroughly familiar with the work, has been promoted to general sales manager and T. H. Mittendorf to sales promotion and advertising manager.

No other changes are contemplated at present and the company will carry on the same policies which are well known in the trade.

W. C. Ross was one of the organizers of the Mid-States Company and has been secretary and treasurer and sales director since 1919. He is also president of the National Association of Gummed Tape Manufacturers. He will join the A. O. Smith Corporation, of Milwaukee, manufacturers of Pressed Steel Products in a managerial capacity.

Finland's Pulpwood Resources

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., Sept. 14, 1926.—The question of how far Finland can go in producting pulpwood for foreign consumption has again come to the fore in view of the reported contemplation on the part of the Norwegian interests to establish purchasing agencies for pulpwood in Finland and Russia, according to a report from Assistant Trade Commissioner Kekick at Helsingfors. The opinion is expressed that researches necessary in this matter should be made as soon as possible, and a conclusion reached as to the future policy owing to the possibilities of overcutting in certain sections if the present rate of consumption continues.

To Be Chief Engineer For American Writing

HOLYOKE, Mass., September 14, 1926.—Andrew Jackson, for the past several years mechanical engineer at the American Writing Paper Company, has been appointed acting chief engineer to succeed Herman R. Harrington who resigned on September 1.

Mr. Jackson, who has been assistant to Mr. Harrigan for the past three years, has had a broad engineering experience. Before coming to the Eagle A organization in 1917 he was connected with Pusey & Jones, builders of paper mill machinery, and previous to that with the Dupont Company.

William G. Russel, chief draftsman, has been named as Mr. Jackson's assistant. Mr. Russel came to the American Writing Paper Company several years ago from the Samuel Green Company of Springfield.

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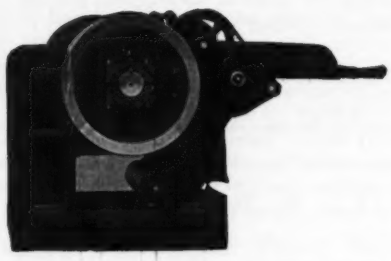

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 15, 1926.

Conditions in the local paper market are quite healthy for the season and a continual expansion of business is predicted for the balance of the year. The various grades of paper are in excellent demand and prices are being maintained on a steady basis. A good volume of inquiries are being received on account of future business and the trade is generally optimistic over the outlook. Sales forces of the leading paper houses are at present performing important spade work and a successful autumn campaign is anticipated.

News print is in persistent request and many publishers are engaged in replenishing their stocks to take care of future requirements. Spot supplies of news print are exceedingly limited and, as a result, prices are very firm. A pleasing feature of the news print industry is the fact that the greatly increased production this year has been steadily absorbed by the publishers, with the result that the market is in a very sound position.

Production of box board is proceeding in good volume and is keeping just slightly ahead of demand. Prices are much firmer than for some time, while reports of shading are infrequent. The tone of the fine paper market is steady and prices generally are being well maintained. An improvement has been noticed in the demand for coarse paper, and wrapping paper is reported to be moving at a satisfactory rate.

Mechanical Pulps

The ground wood market is becoming more active and both domestic and imported mechanical pulp is in better demand. Production has been fairly heavy of late, but stocks appear to have been absorbed satisfactorily, as accumulations are limited, and prices quite firm. During the past week the spot market was rather quiet, a condition which is probably only temporary.

Chemical Pulp

No further developments were reported in the chemical market since the preceding week. Although the strike in the Norwegian paper industry still continues, the strong attempt that is being made to effect a settlement is generally expected to succeed. However, the labor situation abroad has had little effect on the local market to date. Quotations on chemical pulp are steady and unchanged from previous levels.

Old Rope and Bagging

The demand from the paper mills for old rope and bagging is fairly good, and a moderate amount of business was transacted during the past week. There is a somewhat better feeling for both imported and domestic old manila rope. Roofing bagging is in good request and sellers are firm in regard to prices, in most instances.

Rags

Foreign rags are in slightly improved demand, although the volume of sales reported during the past week was only moderate. The paper mills are said to be taking a greater interest in the various grades of domestic rags. Both cotton rags and mixed rags are in better request, while the demand for roofing rags is improving. Offerings are rather limited and prices rule steady to firm.

Waste Paper

Demand for waste paper is expanding steadily. In most quarters it is predicted that the closing months of the year will be exceptionally active. One of the principal factors in this position is the report of the improved position of the paper board industry. It is felt that the board mills will have to be generous purchasers in the near future, in order to meet their increased requirements.

Twine

While the twine market is practically unchanged, it is generally believed that purchasing will expand from now on to the end of the year. Prices are still considered to be too low and an advance is confidently predicted to take place as soon as the autumn buying season gets properly under way.

A New Paper Scheme for Florida

A press dispatch from Tallahassee, Fla., says that "if plans now being formed by the Southern Immigration and Industrial Association, of Chicago, finally materialize, Florida will soon have a cooperative paper manufacturing plant, with about 40,000 acres needed for industrial and colonization work.

"This information was contained in a letter written by the association to the Bureau of Immigration, of the State Department of Agriculture, in which a request was made for the names of owners of tracts of land of 2,000 or more acres, and for those of power plants operating in the state. Climatic conditions were also asked for.

"The letter, signed by Stephen J. Adam, stated that 800 families would be colonized, and that the principal crop of production would be corn, with land especially adapted to the raising of corn desired. A factory would be organized on the co-operative basis and each farmer would be given at least 100 days of mill work annually.

"The paper, it was stated, is a newly patented product."

Cleveland Reports Good Paper Demand

[FROM OUR REGULAR CORRESPONDENT]

CLEVELAND, September 14, 1926.—The strong demand for all papers continues in practically all jobbing houses. Orders from printers are increasing and these houses are receiving larger orders for stationery and advertising matter than one year ago.

Reports to the Cleveland Graphic Arts Club show that for the 12 months ending June 30, 34 of the largest printing firms in the city did a total of $4,273,239 worth of business and their profit was $224,159 or but 5.2 per cent on sales. Materials cost were 34.2 per cent.

Finish Rafting Pulp Wood Across Superior

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., September 14, 1926.—Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has finished the rafting of pulpwood across Lake Superior for the season. The fifth and last raft has been brought by the tug Butterfield from Canada to Ashland, for reloading to the company's mills at Wisconsin Rapids and Stevens Point, Wis. The tug has begun towing barges of raw pulp between these same ports.

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, September 15, 1926.

Trading in the local chemical market during the past week was on broader lines than for some time past. Shipments against contract proceeded in excellent volume and, now that the summer months are over, a further expansion of this movement is anticipated. Inquiries for future business are steadily growing and the outlook generally is very encouraging. Prices remain steady and in most instances are holding up to schedule.

BLANC FIXE.—While the position of the blanc fixe market is sound, most of the business being transacted at the present time is routine. However, a revival of activity is expected at any time. Prices are unaltered. The pulp is still selling at $56 a ton, in bulk, and the powder is quoted at from 4 to 4¼ cents a pound, in barrels, at works.

BLEACHING POWDER.—Contract withdrawals of bleaching powder are moving at a good pace. Inquiries are coming along more frequently than of late and the market is becoming more active. Bleaching powder is quoted at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—Conditions in the casein market are somewhat easier. Buyers of both the domestic and imported product appear to be holding off at present in the expectation of concessions in the near future. Imported casein is now offered at from 17 to 19 cents a pound, and domestic casein is quoted at from 16 to 19 cents a pound, all in bags.

CAUSTIC SODA.—Shipments of caustic soda are going forward in larger volume. The demand is being well maintained and quotations remain very steady. Production is proceeding at a normal rate and the output is being readily absorbed. Caustic soda is quoted at from $3.10 to $3.15 per 100 pounds, in large drums, at works. Spot car lots are selling at from $3.20 to $3.25 per 100 pounds.

CHINA CLAY.—The undertone of the china clay market is quite sound, and there is continued good request for shipments against contract. The spot market, however, is comparatively quiet. Quotations are unchanged. Imported china clay is quoted at from $13 to $22 a ton, in bulk, ship side. Domestic washed clay is selling at from $8 to $9 a ton, at mine, and pulverized at $10 a ton.

CHLORINE.—The chlorine market is still enjoying favorable conditions. Demand for this product is most persistent and prices are holding up to schedule in a satisfactory manner. Chlorine is still quoted at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract business, while the spot price is from 4¼ to 4¾ cents a pound.

ROSIN.—Domestic consumers of rosin are taking on supplies in a routine manner. Stocks are reported to be rather limited and prices continue to fluctuate. At the naval stores, the grades of rosin mostly used in the paper mills are now offered at from $15.60 to $15.75 per 280 pounds, ex dock, in barrels.

SALT CAKE.—The position of the salt cake market is very strong and, with surplus stocks still rather scarce, prices are decidedly firm. An active demand for this product is anticipated for the balance of the year. Salt cake is still quoted at from $18 to $20 a ton, in bulk, at works.

SODA ASH.—Demand for soda ash is steadily increasing, and shipments are going forward in excellent volume. Production of soda ash continues on a broad scale and consumption is correspondingly heavy. Contract quotations, in car lots, at works, per 100 pounds are as follows: in bulk, $1.25; in bags, $1.38, and in barrels, $1.63.

STARCH.—No new developments transpired in the starch market during the past week. Demand being well maintained and supplies continue to move into consumption in good volume. Prices remain unchanged from previously reported levels. Special paper makers' starch is offered at $3.42 per 100 pounds, in bags, and at $3.59 per 100 pounds, in barrels.

SULPHATE OF ALUMINA.—Some improvement was experienced in the sulphate of alumina market during the past week. Inquiries were more numerous and contract shipments were moving at an increased pace. Quotations were unaltered. Commercial grades of sulphate of alumina are still quoted at from $1.40 to $1.45, in bags, at works, in car lots. The iron free is selling at from $2 to $2.05 per 100 pounds, at works.

SULPHUR.—Consumers are showing more interest in sulphur, although most of the orders transacted were for small or moderate quantities. The movement against contract is expanding and prices are being well maintained. Sulphur is quoted at from $18 to $19 a ton, in bulk, at mine, and at from $21 to $23 a ton, ship side.

TALC.—More or less routine conditions prevailed in the talc market during the past week. Trading mostly proceeded along seasonal lines and prices were steadily maintained at previously quoted levels. Domestic talc is still quoted at from $16 to $18 a ton, at eastern mines, while French talc is quoted at from $18 to $22 a ton, ship side.

Coxe Traveling Grate Stoker

The Combustion Engineering Company, of 43 Broad street, New York have just issued a new catalog, illustrating and describing the design and construction of the Coxe Traveling Grate Stoker. This interesting booklet also contains a comprehensive table showing typical evaporative tests of Coxe Stokers over a wide range of capacities. They were made in five different plants.

It is stated that the first successful forced draft travelling grate was designed and built some 25 years ago by Eckley B. Coxe, an owner and operator of anthracite mines. Mr. Coxe conceived the idea that the finer or steam sizes of anthracite could be more efficiently burned on some form of mechanical stoker with forced draft. The soundness of his ideas and design may be recognized by the facts that at the present time boilers totaling about 700,000 rated h.p. are equipped with the stoker bearing his name and that the Coxe stoker is now recognized as the standard stoker for burning anthracite.

The satisfactory results with anthracite coal led to an attempt to burn coke breeze, as it was though that the burning characteristics of the two were similar. The first installation proved this to be the case and subsequent installations have demonstrated that the Coxe stoker is equaled by none in burning coke breeze, either from bee-hive or by-product ovens or gas works. Over 200,000 rated h.p. of boilers are now equipped with Coxe stokers burning coke breeze. Not only has the Coxe stoker been the pioneer in the burning of low-grade anthracite coals and coke breeze, but it was also the first forced draft traveling grate stoker to burn bituminous coals successfully.

Business Good in Western Provinces

George R. Warwick, who is the president of Warwick Brothers and Rutter, manufacturing stationers, Toronto, has returned from an extensive business trip through the western provinces of Canada. He visited a number of the branch managers of the firm and found an optimistic attitude in business circles generally, engendered by the bountiful harvest, better collections and happier outlook all along the line. Mr. Warwick attended in Vancouver a meeting of the Excelsior Life Insurance Company, of which he is a director.

Fire Causes Partial Shutdown

Partial shutdown of the plant of the John Strange Paper Company, Neenah, Wis., occurred last week due to fire that started in a stack of wood cores in the beater room and had worked down into a bin of shavings. It was necessary to stop the beaters and paper machines until the fire could be extinguished and the damage overcome.